

N.E.C.C.



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# Northern Essex Community College

Haverhill, Massachusetts

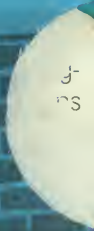
1974-1976  
Catalog

# GET HIGH ON THE 20TH CENTURY

COME AND JOIN US.  
HOPE, HORN, HARADA, KRAUS,  
MANTHNEY, MORIN, WILCOXSON...  
IN AN EXPLORATION OF  
MULTIPLE 20TH CENTURY ISSUES

A WEEKLY  
SPONSOR  
THE COMMITTEE ON IN...ARY STUDIES

FORBES  
THE ONE



# Northern Essex Community College

100 Elliott Street

Haverhill, Massachusetts 01830



Northern Essex Community College is established under the Massachusetts Board of Regional Community Colleges as a publicly-supported institution of higher learning. It is a non-sectarian, fully integrated institution of higher learning in compliance with the Civil Rights Act of 1964.

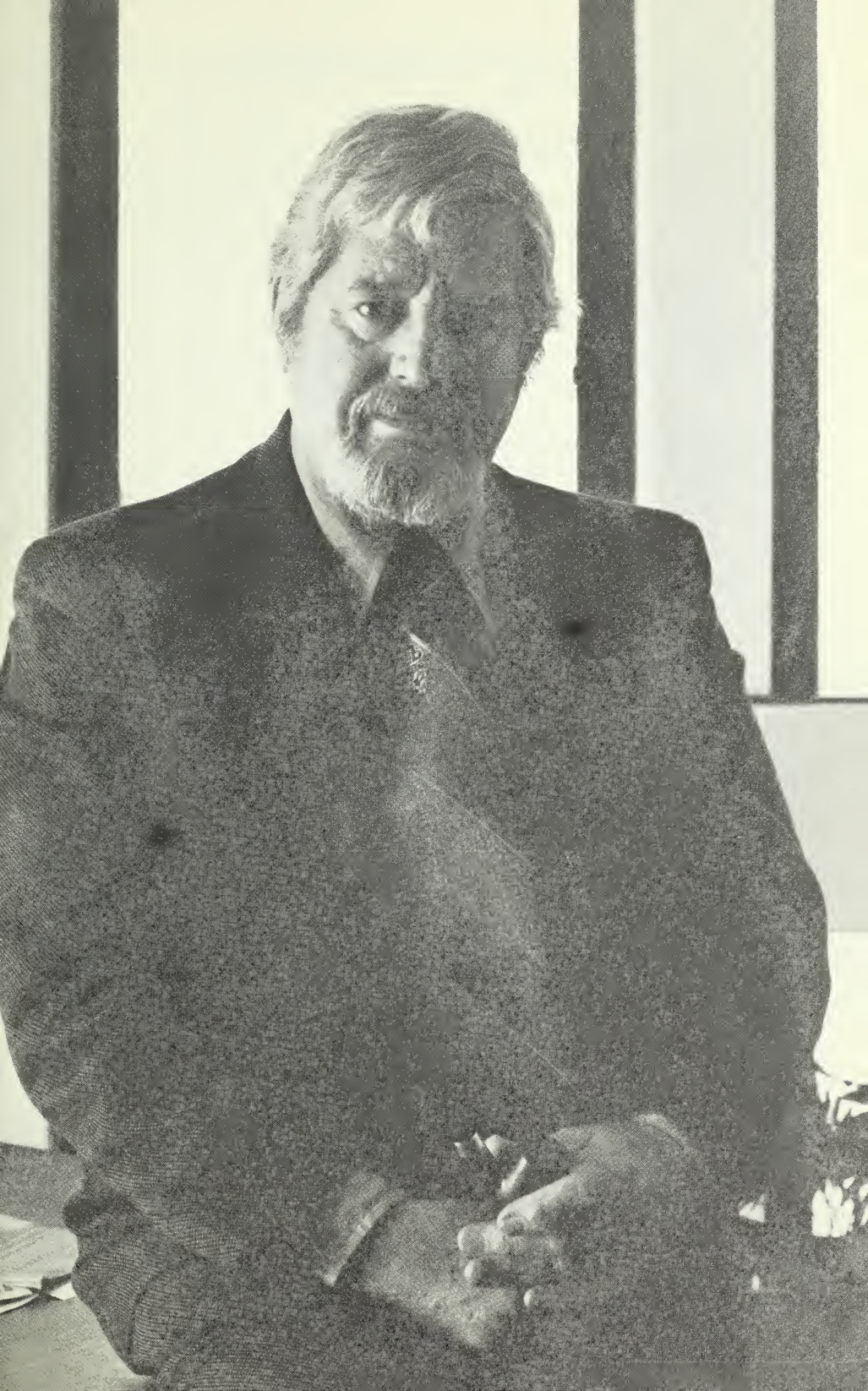
Northern Essex is accredited by the New England Association of Schools and Colleges, Incorporated.

The New England Association of Schools and Colleges, Incorporated, is one of six nationally recognized regional accrediting associations in the United States and is the official accrediting agency for schools and colleges in the six New England states. Institutional membership in the Association indicates that the school or college has been carefully evaluated and found to meet standards agreed upon by qualified educators. In an era of immense change affecting all levels of education, Northern Essex recognizes the need for standards that transcend the widely varying conditions in local institutions, communities, and states. Because Northern Essex continues to be vitally interested in the quality of the educational preparation of its applicants for admission, it supports the efforts and the commitment of secondary school officials and governing bodies to have secondary schools meet regional accreditation standards.

Northern Essex is a member of the New England Association of Schools and Colleges and of the American Association of Community and Junior Colleges and the New England Junior College Council.









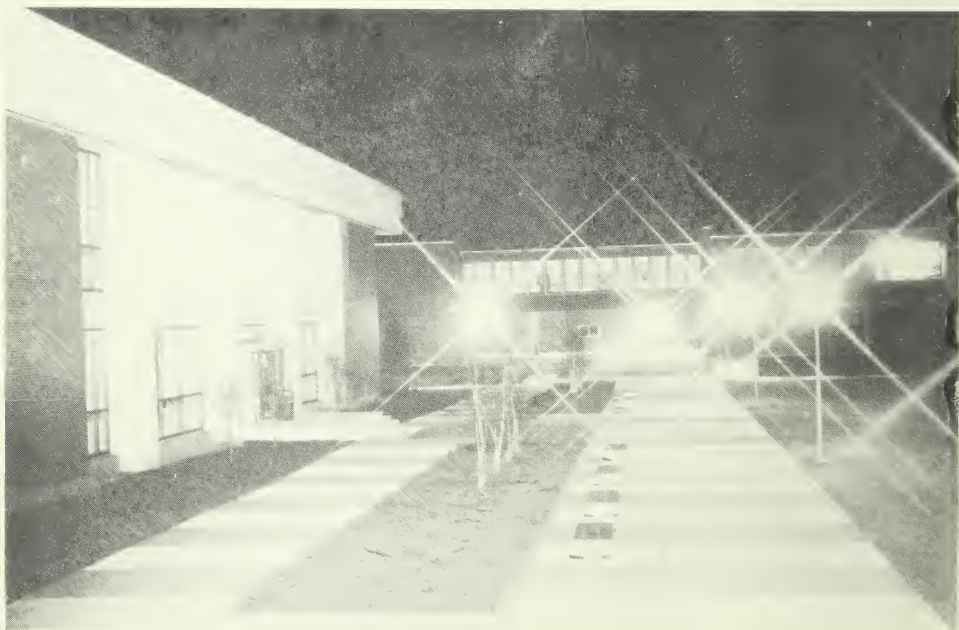
# History of the College

Northern Essex Community College was founded during the governorship of Foster J. Furculo. In October, 1960 Harold Bentley was appointed Director — and later President — of the college with a mandate to develop a permanent institution of higher learning.

The roots of Northern Essex are not buried in the past. To Harold Bentley, President of the College, and the other members of his small pioneering team, the hectic, demanding early days are ever-present, warm memories. The year 1960 meant a search for qualified teachers, plans for an opening class, and a desperate need for space.

Early in 1961, the City of Haverhill offered Northern Essex use of the old Greenleaf School in Bradford. "Old" was hardly an adequate description. Once a proud, red-brick, New England town hall, and for many years an elementary school, the Greenleaf School was in terrible condition and condemned.

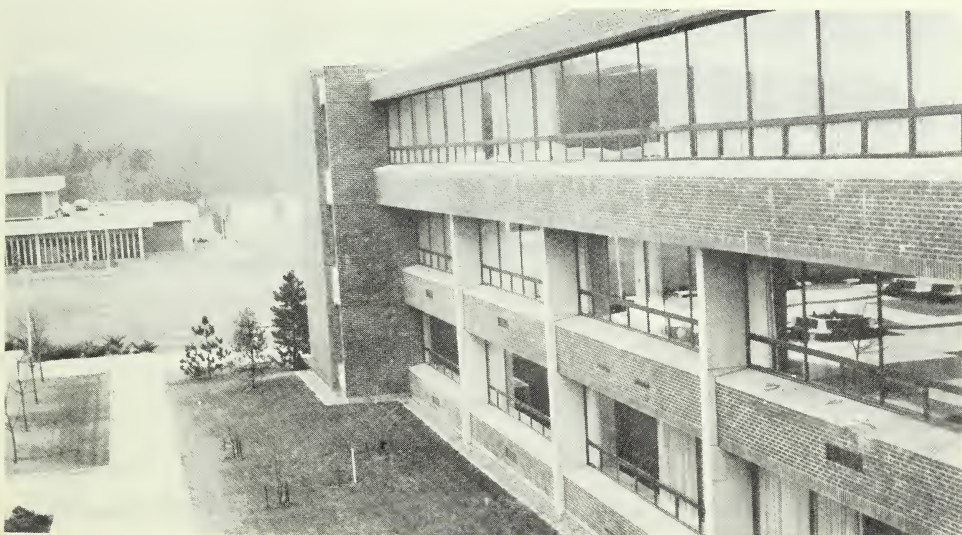
But it was space. The Commonwealth of Massachusetts completely renovated the building. In the fall of 1961, resplendent with six new classrooms, and laboratories for chemistry, biology, physics, electronics and business machines, the old Greenleaf School opened its doors to one hundred and eighty-six students who were to be the first graduating class of Northern Essex Community College.





Northern Essex grew steadily. The City of Haverhill made additional space available in the former high school — a strong arm's stone throw across the Merrimack River from the Bradford campus. The original small, pleasant library has grown into a Learning Resource Center with over 35,000 volumes: new acquisitions are added regularly. The first tiny enrollment has grown over 1,000% in the last ten years. Registration for the fall, 1974 semester totalled 3,100 students. Over 2,550 students studied in the Division of Continuing Education and Community Services.

Northern Essex Community College has come a long way since its inception in 1960.

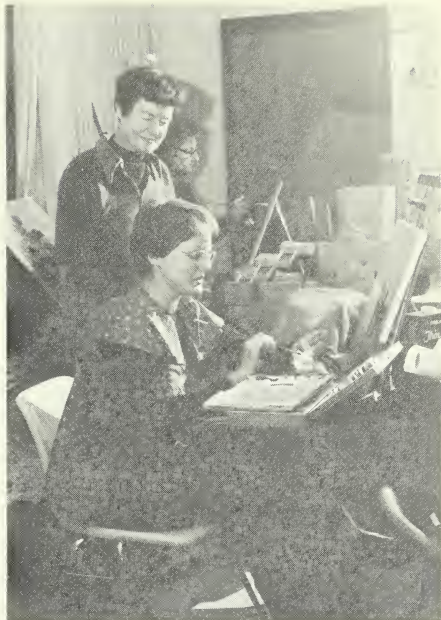
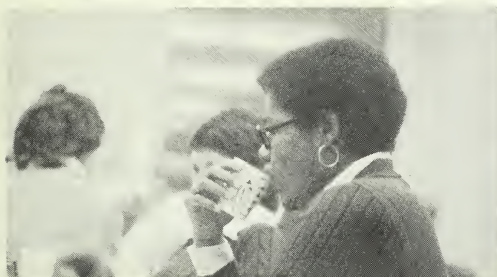






Northern Essex is still moving, still growing. On February 23, 1965 the City of Haverhill deeded a parcel of land to the Commonwealth of Massachusetts as the site for a new campus for Northern Essex.

The "parcel" is a magnificent stretch of rolling New England countryside — one hundred and ten acres overlooking beautiful Lake Kenoza



in Haverhill. In the Fall of 1971, the new campus was completed, and opened its doors to all the students, old and young, of the region. The City of Haverhill's generous gift is a permanent and glowing addition to the growing public educational services offered to its citizens by the Commonwealth of Massachusetts. The college was officially dedicated on May 10, 1974.



# Philosophy of the College

Northern Essex believes that education is a continuing, forever kind of thing for everyone.

Northern Essex has its doors open in welcome to everyone — good and so-so students, culturally disadvantaged students, continuing education students — everyone from nineteen to ninety-one (and younger and older) — who wants to learn.

The college seeks out potential students who may not be aware of the educational possibilities around them. Age, ethnic or religious background, past academic records — none of these factors are barriers at Northern Essex. The college plans for a variety of needs.

Northern Essex encourages people to consider education throughout their lives. The college believes that a sound, basic educational background is a good tool to help people adjust to a world of rushing change.

The college believes in developing new programs which will be relevant to the needs and desires of students. Northern Essex believes in the shirt-sleeve approach to education. Learning and living are interlocked at the college, and education is real.

## Purpose and Aims of the College

Northern Essex is a college with its door open to everyone in the community interested in learning.

It is a community college, filling community needs. The Merrimack Valley region of the Commonwealth of Massachusetts is the community. Northern Essex serves more than forty-five cities and towns in this area. Study at Northern Essex is also available to some students from adjacent areas of Southern New Hampshire.

Northern Essex is a comprehensive community college which concentrates all of its resources on the important first two college years.

The college provides quality education at low cost. It offers students the opportunity to search out higher values and ideals; to interpret their own cultural heritage and that of others; and to become informed, tolerant citizens of their democratic society. Students learn to read, speak and write more clearly and effectively, and to communicate more easily with their fellow men. Students are encouraged to satisfy their desires for intellectual understanding and economic self-sufficiency.

Northern Essex offers degree programs based on three concepts: that people have different abilities, needs, desires and interests; that their educational needs vary as they continue through life; and that these educational needs must be met by varying kinds of programs.

Northern Essex has transfer-oriented programs for students who plan to continue their education at senior institutions. Broadly based, these programs also offer students who are unsure of the direction of their future plans an opportunity to explore different areas before concentrating their studies.

The college has occupationally-oriented programs leading to productive jobs and better futures. They reflect the needs of business and industry in the Merrimack Valley region.

Northern Essex has developmental programs for students who may never have considered themselves college material, and for students from racial and cultural minority groups. Emphasis is placed on a fundamental developmental orientation to college-level work before these students enroll in a degree program.

Northern Essex has special programs, and courses of varying lengths and emphases, to meet the needs of adults. These programs answer the demands for academic achievement, cultural growth, and vocational improvement made by people in the community.

The college provides courses during the day, in the evening, during the summer and on Saturday mornings.

Northern Essex provides an excellent education for qualified high school graduates on a full, or part-time, basis. The college provides an opportunity for equivalency exams for students who have not graduated from high school.

The college is a commuters' college located in the heart of its region. Students study and learn in their own backyards.

Northern Essex provides counseling for every student in selection of program, choice of vocation, and the huge task of making learning relevant to living.

## Governance of the College

Jurisdiction for the community colleges in the Commonwealth of Massachusetts has been designated to the Massachusetts Board of Regional Community Colleges by the State. The Board, in turn, delegates full authority and responsibility for the administration of individual community colleges to the president of that college.

At Northern Essex, to foster shared authority and responsibility in the making of decisions, an Academic Council has been created as a partnership including the student body, the faculty, and the administration. Establishment of this council recognized the need for increasingly effective participation by all the components of the academic community in the governance of the college.

The functions of the Academic Council are delegated to the council by the President of the College. The council is advisory in nature.

The Academic Council is a structure for shared authority in decisions concerning the educational excellence of Northern Essex Community College. The operation of the council is a learning process for all involved, and changes and refinements are anticipated. The council represents a basic commitment to a basic organization charged with basic tasks.

## Counseling

Everyone has a problem of one sort or another, at one time or another. Just living means problems. Certainly planning an education can mean problems. Solving these problems means clearing away barriers to progress and, very often, going on better prepared for success.

Students often need help to solve their problems. They need access to new alternatives; they need suggestions, advice, encouragement, or perhaps simply a warm and friendly ear.

Northern Essex has a professional staff to counsel students. Our counselors understand the problems of the commuting student, the academic demands made on him, and the world of work or further study he will enter when he leaves the college. They are people who like people. Our counselors help students work out their own problems and their own patterns for progress.

Students talk to counselors about their learning problems and their academic goals. They discuss requirements for transfer with the counselors, and receive suggestions on the selection of careers. Sometimes the problem is personal, or financial. Students find our counselors equally prepared to help with these problems. Students may also encourage their parents to meet with counselors to work out a problem area.

The Office of Placement surveys the job potential in the community, relates job opportunities to the career programs at the college and helps graduates secure relevant placement.

The Office of Veterans Affairs handles all information and problems related to veterans on campus.

And counselors at Northern Essex are, above all, available to the student. The counseling office is open regularly every day for any student who needs some friendly advice.

# The Faculty Advisory Program

The Faculty Advisory Program at Northern Essex is voluntary for both faculty and student. In developing the program, the college considered several basic points:

All students need advice some of the time

The kind of advice needed varies with the student, and varies for a particular student at different times in his academic career

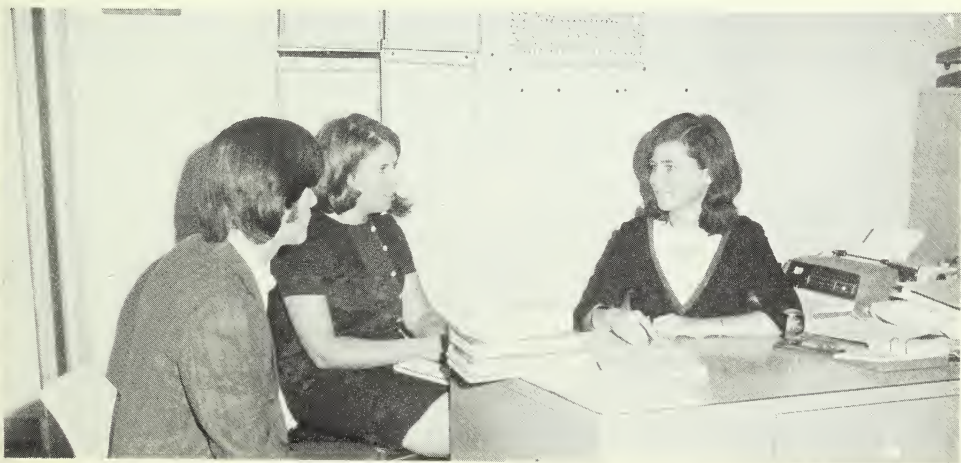
There is a tremendous store of resources at the college represented by the professional faculty and staff.

Each faculty member indicates his areas of professional and avocational interest to each student through the auspices of the program. Students then select specific types of advice according to their individual needs and interests and abilities.

If a student wishes to have a faculty member serve as his advisor in a continuing, on-going relationship throughout his stay at the college, he is encouraged to seek out his personal advisor. The student simply asks the faculty member to serve as his personal advisor. The faculty member decides whether he wishes to serve and, if so, decides the number of students he can effectively serve.

In some cases, particularly in the case of freshmen, the Dean of Students may recommend and encourage an on-going relationship with a personal advisor. However, such a relationship is not a requirement.

The Faculty Advisory Program is committed to the idea that advice is best when it is sought by individual students on a voluntary basis, and when it is given willingly and voluntarily by a competent professional.





# The Transfer Process

As a general rule, all course work completed at Northern Essex is transferable to senior institutions throughout the country at full academic value since the college is accredited. However, the following conditions must be met:

Most colleges will transfer only those courses in which the student receives a grade of C or higher

Selection of courses at Northern Essex must be appropriate to the field of concentration at the senior institution

Certain liberal arts colleges do not offer work in specialized areas such as engineering, business education, etc., and may not accept courses in such fields for transfer. Each student must identify the type of institution to which he expects to transfer, even though he may not know which particular college may be selected, and choose courses at Northern Essex accordingly

In all transfer processes, the receiving institution makes the final decision on acceptance or non-acceptance of courses.

It is the responsibility of each student to select courses at Northern Essex that will be acceptable for his chosen field of study at the senior institution of his choice. Careful study of the catalog of that institution will answer most questions. Students should request, from the registrar of the senior institution they select, a copy of that college's catalog.

Full transfer credit toward the baccalaureate degree is granted by most senior institutions for all courses in the following curricula at Northern Essex: Liberal Arts, Engineering Science and Business Transfer.

There are some courses at the college intended for two-year associate degree curricula which are designed for students who are preparing for direct entry into business or industry. These courses are college-level, but are not intended to meet the objectives of a baccalaureate program and, therefore, may not be transferable.

Northern Essex graduates have been accepted for transfer to colleges and universities, public and private, throughout the United States.

## Transfer Within the College

Students who wish to transfer — within the college — from a career-oriented program to a transfer program may do so with the permission of the Dean of Students. The Dean of Students and the chairman of the appropriate department will discuss with the student which courses are



transferable. Only those courses applicable to the new curriculum will be computed in the student's quality point average.

Arrangements for such transitions should be made before the start of the student's second year at Northern Essex. These transitions are the exception rather than the rule. Transfer from some career programs is quite impractical. Transfer from many career programs is difficult.



# Financial Aid

Northern Essex Community College participates in the federal financial aid program which was established in 1958 with the passage of the National Defense Education Act. In accordance with the philosophy of this and subsequent acts, the college, through federal, state and its own institutional funds, seeks to assist students to attend college who would otherwise not be able to afford such an education.

## CONFIDENTIAL STATEMENT FORM

A student applies for financial assistance directly from the college. A Parent's Confidential Statement or Student's Confidential Statement must be submitted. These forms can be obtained from the Financial Aid Office at Northern Essex Community College; the College Scholarship Service, Box 176, Princeton, N.J.; or local high school guidance offices.

In order for a student to be considered independent and therefore eligible for federal funds based on his own financial situation, he must have lived on his own (and not in his parent's house) for one year prior to the date of application. He must not have been claimed as an income tax deduction by his parents for the last calendar year or the current calendar year (for example: if a student is applying for financial aid for September of 1974, he can not be claimed as a tax deduction for 1973 or 1974). A student may not have received more than \$600.00 in aid from his parents in the last year. A student who decides to apply as an independent student should be prepared to furnish evidence that the above criteria have been met.

## INSTITUTIONAL APPLICATION

After we have received all the financial statements each student is sent an institutional application. A financial aid application is not complete without both forms.

## FINANCIAL AID PROGRAMS

Financial assistance is available through the college in a number of programs: Educational Opportunity Grants (EOG), National Direct Student Loans (NDSL), College Work-Study (CWS), Nursing Grants, Nursing Loans and Discovery Program Grants. The assistance is granted from any one, or any combination of these programs which is carefully worked out to be most suitable for the student. Your first responsibility is to use money awarded to cover direct college expenses.

In addition, students who are entering college for the first time may be eligible for a Basic Opportunity Grant directly from the federal government.

Financial Aid is not automatically renewable: you must reapply each year by submitting a current Parent's Confidential Statement or Student's Financial Statement and an institutional application.

### **Basic Educational Opportunity Grant**

Basic Educational Opportunity Grants are applied for directly from the federal government. Applications may be picked up either from the financial aid officer at the college or your high school guidance office. Only students who are entering college for the first time in the fall of 1974 will be eligible for a Basic Educational Opportunity Grant for the school year 1974-1975.

The awards will range in amounts from \$50.00 to \$800.00. The deadline for applying for the Basic Educational Opportunity Grant for the school year 1974-1975 is February 1, 1975. Students should consider this program the floor of the financial aid package. They will be required to apply for this program, if eligible, in order to receive any other financial assistance from Northern Essex Community College.

Applications are available from the college financial aid office, your local high school guidance office, or any federal office.

### **Supplementary Educational Opportunity Grant Program**

Under the Supplementary Educational Opportunity Grant Program (an award which does not have to be repaid), students of exceptional financial need are awarded up to one-half of their financial need, provided an equal sum is found as a "match." Recognized scholarships, National Direct Student Loans, participation in the College Work-Study Program and Basic Educational Opportunity Grants are all considered legitimate "matches." Eligible students may receive awards ranging from \$200.00 to \$1,500.00 (up to one-half of their need). However, the maximum amount over a four year period is \$4,000.00.

The repayment of the principal may be extended over a ten-year period with interest at the rate of 3% per annum. Partial cancellations of the loan will occur for each year the student works as a professional nurse in any public or private non-profit institution: for the first, second and third years the loan will be cancelled at the rate of 15%; for the fourth and fifth years at the rate of 20%.

### **College Work Study Program**

This is a program of part-time employment under the sponsorship of the Federal Government. It is designed to help full time students meet their educational expenses. Students may work up to 15 hours weekly while attending classes, or up to 40 hours weekly during



vacations or in the summer. Only students with special permission may work during vacations. The basic pay rate is \$2.00 an hour. Eligible students may work for the college, or for public or private non-profit organizations. The Financial Aid Office has the responsibility of placing qualified students in their job assignments.

College Work Study will begin in September and continue through May. Students may or may not be allowed to work during Christmas vacation. You should realize that your award represents a maximum that you may earn; it does not obligate the full amount in all cases.

### **Short Term Emergency Loan Fund**

The Faculty Association has donated a sum of money to be used for short term loans. The maximum loan is \$25.00 and is interest free if repaid within two weeks. If the loan is repaid after the two-week deadline, there is a service charge of \$1.00 and simple interest of 6%.

### **Discovery Grants**

There are grant funds available for students who enroll in the Discovery Program. These grants will be awarded on the basis of need and will be considered part of a total financial aid package. The amounts awarded depend on the individual cases.

### **Help Loan (Higher Education Loan Program)**

Students who are not eligible for financial aid through the federal programs which have already been listed, or students who apply after the federal money has already been allocated, may wish to apply for a bank loan through the Higher Education Loan Program. These loans and the applications for them are available at local banks.

You should first try the bank where you or your family do business. If they do not give HELP loans there is a list of HELP loan banks in this area available in the Financial Aid office at Northern Essex Community College.

### **National Direct Student Loans**

(Formerly National Defense)

Individuals who do not qualify for Supplementary Educational Opportunity Grants or Basic Educational Opportunity Grants may qualify for National Direct Student Loans. These loans do not accrue interest while the student remains in school, the Armed Forces, VISTA or the Peace Corps. Repayment, which may extend over a ten-year period, begins only after a "grace" period of nine months. Any payments received by the college before the "grace" period ends are interest free and are deducted from the principal; otherwise

National Direct Student Loans are paid back quarterly with an interest rate of 3% a year on the unpaid balance. The maximum amount that a student may borrow is \$1,500.00 a year. The maximum a student may borrow to complete his undergraduate work is \$5,000.00.

If a student teaches in an elementary or secondary school designated as having a high enrollment of low income students, or if the student is a full-time teacher of handicapped children (including mentally retarded, deaf, speech impaired, visually handicapped, seriously emotionally disturbed) in an elementary or secondary school, the loan will be cancelled at a rate of 15% for the first and second years, 20% for the third and fourth years, and 30% for the fifth year of service.

If a student is employed as a full-time staff member in a Head Start Program, the loan shall be cancelled at the rate of 15% a year. If a student serves in the Armed Forces in an area of hostility for a year, the loan will be cancelled at the rate of 12 1/2%. Billing and collecting is done for the college by Wachovia Services, Winston Salem, North Carolina. However, questions regarding billing may be directed to the Financial Aid Office.

### **Nursing Scholarship Program**

This federal program is available to full-time students accepted for a course of study leading to an Associate or Bachelor of Science degree in Nursing. Applicants must evidence financial need and academic promise. The maximum grant allowable is \$1,500.00 for one academic year. This program is being phased out and the school year 1973-1974 may be its last year.

### **Nursing Student Loan Program**

This program is designed for full-time undergraduate students who have been accepted for a course of study leading to an Associate or Bachelor of Science degree in Nursing. Providing financial need is evident, a student may borrow as much as \$1,500.00 per year up to a maximum amount of \$6,000.00 for the entire undergraduate education. Repayment and interest on these loans does not begin until nine months after the student ceases to pursue a full-time course of study.

The interest rate on these loans is 7%. In many cases the federal government pays the interest while the student is in college. In order to apply for this interest subsidy, you must submit either a Parent's Confidential Statement or a Student's Financial Statement to the Financial Aid Office at Northern Essex because the school must make a recommendation to the bank.



## **Massachusetts Board of Higher Education Scholarship**

(Massachusetts State Scholarship)

The Massachusetts Board of Higher Education gives scholarships based on need to students who are residents of Massachusetts. For the school year 1973-1974, the awards will be for tuition up to \$300.00 in the public sector, \$900.00 in the private sector and \$600.00 to an out-of-state public institution.

Entering freshmen receive first priority in this scholarship; however, students who are already in college may apply. The deadline for freshmen entering school in September will be December 1 of the previous year. Renewal applications and upper class applications must be filed by April. You should indicate on your Parent's Confidential Statement or your Student's Financial Statement that you want an additional copy of the form to be sent to the State of Massachusetts, 0558. These awards are not determined by the college and the deadlines are very strict; however, we attempt to help students receive these awards.

## **VETERANS EDUCATIONAL BENEFITS**

Veterans are eligible for monthly benefits from the Federal Government and most are also eligible for a tuition waiver from the State of Massachusetts. This must be applied for separately as indicated below:

### **Federal Programs — G I Bill**

1. Applications can be obtained from the Veteran's Administration or the Financial Aid Office at the college.
2. In order to insure the quickest possible receipt of your checks, you should return your completed application and a copy of your separation papers (DD 214) to the Veteran's Office at the college. We will send an enrollment certification to the Veteran's Administration along with the application. If this is done early enough (4-6 weeks prior to the start of school) you should receive a check during the first week of school.
3. A student taking 12 or more hours will be considered a full-time student by the Veteran's Administration. However, he should realize that even if he takes only 12 hours he is exhausting his entitlement as if he were taking 15 hours.
4. The Veteran's Administration will pay for any tutoring that a veteran may need up to \$450.00 for a nine-month period.

# Faculty Association Scholarships

The Faculty Association at Northern Essex has provided a number of half-year tuition scholarships which qualify as matching funds for Economic Opportunity Grants. The scholarships are available to students in their second semester at the college only.

Students, to be eligible for Faculty Association Scholarships, must have attended Northern Essex for one full semester, have financial need, and maintain a minimum quality point average of 2.00. Preference will be given to students with higher quality point averages.



## Part-time Employment

Full-time students at Northern Essex usually spend about sixteen hours a week in class work exclusively. Students must spend, in addition, an average of two or more study hours per week for each hour of class time.

The average academic week, then, is approximately forty-eight hours, depending upon the number and type of courses selected.

Part-time employment, in addition to a full-time academic work load, is not usually in the best interests of the student — in terms of academic achievement or health. Northern Essex does not recommend or encourage part-time work. First semester students, in particular, are urged not to consider part-time employment. Adjustment to college life and college work is, itself, a full-time job.

However, sometimes part-time employment is necessary. Students who must work should discuss the question with the counselors at the college. Students will be given assistance in locating jobs available in the community. Students should not consider employment which demands more than fifteen hours per week. Students who must work are also encouraged to consider a twelve-credit-hour course load.

# Admission to the College

Everyone has the right to apply for admission to Northern Essex Community College. The college is deeply committed to offering educational opportunity to all, without discrimination on any basis. Applicants for an associate degree program must be high school graduates or the equivalent.

The Office of Admissions evaluates applications and selects candidates for acceptance into one of the degree programs at the college. The Office of Admissions looks for evidence of potential for achievement within a college-level program. It seeks to identify students who will benefit from study at the college. An applicant's ability and the strength of his determination to get a college education are considered.

The Office of Admissions may recommend a change in study direction for some, or advise completion of specific college preparatory courses for others. In all cases, the judgements, decisions and final selections for acceptance made by the Office of Admissions are final.

## Foreign Students

Northern Essex Community College accepts a limited number of foreign students each year. Admission is offered to foreign students after all applications from American citizens have been processed.

The documents required from foreign students on admission to the college are:

**High School Transcript:** All courses completed in high school should be listed. The transcript should be translated into English and certified as an accurate translation of the original document

**College Transcript** (if any)

**Test of English as a Foreign Language (TOEFL):** Those applicants whose test results are unsatisfactory may be accepted by the college for a program called Intensive English as A Second Language. Successful completion of the English program may lead to admission to a degree program for which the applicant expresses a preference.

**Certification of Support** in the amount of approximately \$2,000 per year

**Application fee** of \$10.00 must accompany the application form. The application fee is non-refundable.

All of the documents listed above should be received by the Office of Admissions at least one month prior to the beginning of classes. In general, this would mean the first week of August or the last week of December, at the latest.



# NORTHERN ESSEX

COMMUNITY COLLEGE

## APPLICATION FORM

THIS APPLICATION IS TO BE COMPLETED BY THE CANDIDATE AND RETURNED TO THE OFFICE OF ADMISSIONS, NORTHERN ESSEX COMMUNITY COLLEGE, HAVERHILL, MASSACHUSETTS 01830. THE CANDIDATE IS RESPONSIBLE FOR PROVIDING THE FOLLOWING ADMISSIONS MATERIALS:

a completed application form; an official transcript of the high school record; official transcripts for any educational experiences beyond the high school level; the results of any Scholastic Aptitude Tests\*

A NON-REFUNDABLE \$10.00 APPLICATION FEE MUST ACCOMPANY THIS APPLICATION. THE \$10 APPLICATION FEE IS TRANSFERABLE TO OR FROM ANOTHER COMMUNITY COLLEGE IN THE STATE. SUBMIT EVIDENCE OF SUCH PAYMENT, IF ANY. CHECKS SHOULD BE WRITTEN PAYABLE TO NORTHERN ESSEX COMMUNITY COLLEGE.

Please print clearly or type

Date of Application \_\_\_\_\_

NAME (Mr.)(Ms.) _____					TELEPHONE NUMBER _____
Last		First		Middle	
HOME ADDRESS _____			SOCIAL SECURITY NUMBER _____		
Number		Street		City or Town	
		State		ZIP	
DATE OF BIRTH _____			SEX: M _____ F _____		
			ARE YOU A U.S. CITIZEN? YES _____ NO _____		
NAME OF PARENT OR LEGAL GUARDIAN _____			ADDRESS _____		

ARE YOU A VETERAN? YES \_\_\_\_\_ NO \_\_\_\_\_ DATE AND PLACE OF ENLISTMENT \_\_\_\_\_

DATE OF DISCHARGE \_\_\_\_\_ MARITAL STATUS: UNMARRIED \_\_\_\_\_ MARRIED \_\_\_\_\_

WHAT ARE YOU DOING CURRENTLY (Check one or more)? STUDYING \_\_\_\_\_ IN MILITARY SERVICE \_\_\_\_\_ UNEMPLOYED \_\_\_\_\_

A HOMEMAKER \_\_\_\_\_ EMPLOYED FULL-TIME \_\_\_\_\_ EMPLOYED PART-TIME \_\_\_\_\_ OTHER \_\_\_\_\_

IS THIS YOUR FIRST APPLICATION TO NORTHERN ESSEX? YES \_\_\_\_\_ NO \_\_\_\_\_

INDICATE THE STARTING SEMESTER DESIRED: FALL (September) \_\_\_\_\_ SPRING (January) \_\_\_\_\_

WILL YOU ATTEND COLLEGE FULL-TIME (12 or more credits)? \_\_\_\_\_ OR PART-TIME? \_\_\_\_\_ IF PART-TIME, HOW MANY CREDITS? \_\_\_\_\_

INDICATE THE PROGRAM FOR WHICH YOU ARE APPLYING \_\_\_\_\_

YOUR PLANS AFTER GRADUATION ARE: TO TRANSFER \_\_\_\_\_ TO SEEK EMPLOYMENT \_\_\_\_\_ UNDECIDED \_\_\_\_\_

DO YOU PLAN TO APPLY FOR FINANCIAL ASSISTANCE? YES \_\_\_\_\_ NO \_\_\_\_\_

IF ADMITTED, DO YOU HAVE ANY HEALTH CONDITION, PHYSICAL OR EMOTIONAL, OF WHICH THE COLLEGE SHOULD BE AWARE? YES \_\_\_\_\_ NO \_\_\_\_\_

IF YES, PLEASE EXPLAIN \_\_\_\_\_

LIST THE HIGH SCHOOLS YOU ATTENDED (Your transcripts must be received before your application can be evaluated):

Name of High School	Dates Attended	Date of Graduation
_____	19 _____ to 19 _____	_____
_____	19 _____ to 19 _____	_____

LIST COLLEGES YOU ATTENDED (Your transcripts must be received before your application can be evaluated):

Name of College	Dates Attended	Date of Graduation
_____	19 _____ to 19 _____	_____
_____	19 _____ to 19 _____	_____

CHARACTER REFERENCES (not students or relatives):

NAME _____	ADDRESS _____	OCCUPATION _____
NAME _____	ADDRESS _____	OCCUPATION _____

WHO OR WHAT FIRST CALLED YOUR ATTENTION TO NORTHERN ESSEX COMMUNITY COLLEGE? \_\_\_\_\_

\*Scholastic Aptitude Tests are not required in the Department of Office and Business Education (formerly Department of Secretarial Science).

TO BE ENTITLED TO THE LOW TUITION RATE ESTABLISHED FOR RESIDENTS OF MASSACHUSETTS, ALL APPLICANTS MUST HAVE ONE OF THE FOLLOWING CERTIFICATIONS COMPLETED. FOR THE PURPOSE OF THESE CERTIFICATES A PERSON IS CONSIDERED A RESIDENT IF RESIDENCY OR DOMICILE IS BONA FIDE AND MADE WITH THE INTENTION OF CONTINUING TO MAINTAIN AS SUCH.

CERTIFICATE OF PARENT OR GUARDIAN  
FOR APPLICANT UNDER 18 YEARS OF AGE

I, \_\_\_\_\_ CERTIFY THAT

I AM THE PARENT \_\_\_\_\_ GUARDIAN \_\_\_\_\_ OF:

AND MY LEGAL ADDRESS IS:

\_\_\_\_\_  
SIGNATURE

CERTIFICATE OF APPLICANT  
OVER 18 YEARS OF AGE

I, \_\_\_\_\_ CERTIFY THAT

MY LEGAL ADDRESS IS:

\_\_\_\_\_  
SIGNATURE

I HEREBY APPLY FOR ADMISSION TO NORTHERN ESSEX COMMUNITY COLLEGE AND ENCLOSE A NON-REFUNDABLE APPLICATION FEE OF \$10.00, UNLESS I AM ATTACHING EVIDENCE OF HAVING PREVIOUSLY PAID THE FEE TO THIS OR ANOTHER COMMUNITY COLLEGE. I WILL ACCEPT THE FINDINGS OF THE ADMISSIONS OFFICE AS FINAL. IF ADMITTED, I AGREE TO ACCEPT THE REGULATIONS AND REQUIREMENTS OF THE COLLEGE, AND I WILL COOPERATE WITH THE STUDENTS, THE FACULTY AND ADMINISTRATION IN THE MAINTENANCE OF HIGH SCHOLASTIC STANDARDS, AND ACCEPTABLE CONDUCT. I WILL ACCEPT CLASS TIMES AND SCHEDULES AS ARRANGED AND WILL AT ALL TIMES CONSIDER MYSELF TO BE A REPRESENTATIVE OF THE COLLEGE ON CAMPUS AND ALSO IN ALL MY SOCIAL AND COMMUNITY RELATIONSHIPS.

\_\_\_\_\_  
SIGNATURE OF APPLICANT

\_\_\_\_\_  
SIGNATURE OF PARENT OR GUARDIAN  
(APPROVAL SIGNATURE REQUIRED OF APPLICANTS  
UNDER 18 YEARS OF AGE)

NEW ENGLAND REGIONAL STUDENT PROGRAM

STUDENTS WHO ARE LEGAL RESIDENTS OF ANY ONE OF THE FIVE NEW ENGLAND STATES MAY BE ELIGIBLE FOR CONSIDERATION UNDER THE NEW ENGLAND REGIONAL STUDENT PROGRAM. A STUDENT ACCEPTED UNDER THIS PROGRAM PAYS THE MASSACHUSETTS IN-STATE TUITION RATE. YOU ARE ELIGIBLE FOR CONSIDERATION IF...

- ☐ a study program is not offered at your in-state institution
- ☐ a study program is offered at both your in-state institution and Northern Essex Community College, and Northern Essex is closer in traveling time to your legal residence

IF YOU ARE APPLYING UNDER THIS PROGRAM, CHECK THE APPROPRIATE CONDITION ABOVE.

WRITE A BRIEF STATEMENT CONCERNING ANY EXPERIENCE YOU MAY  
HAVE HAD IN CONNECTION WITH THE PROGRAM YOU HAVE CHOSEN



# Steps to Admission

1. Obtain an application form
2. Complete the application form as fully as possible
3. Return the form to the Office of Admissions at Northern Essex and include:
  - A. Application Fee of \$10.00  
Check or money order for the application fee is made payable to Northern Essex Community College. The application fee is non-refundable. One \$10.00 payment of the application fee covers the cost of applying to three (3) community colleges. The college receiving the \$10.00 fee is asked by the applicant to notify the other two colleges of the payment of the fee.
4. Request the high school, and any college, attended to forward the following records to the Office of Admissions at Northern Essex:
  - A. Transcript of Grades
  - B. \*Scholastic Aptitude Tests scores
5. Await notification from the Office of Admissions of the date and time set for a personal interview. Such interviews are not always necessary. A decision is made on whether or not a personal interview is advisable in each individual case.
6. Keep personal interview appointment when it is assigned. Be punctual.
7. Notify the Office of Admissions of any change of address as soon as possible.
8. Await notification by the Office of Admissions of the status of the application. A Letter of Acceptance, or a Letter of Non-Acceptance, is sent to each individual applicant.

\*SAT scores are not required for programs in the Department of Office and Business Education.

No evaluation of an applicant will be made until his application file is complete. It is the applicant's responsibility to complete his own file. Northern Essex will not contact other schools, or the College Entrance Examination Board for records, or any other information.

The college sets no closing date for the receipt of applications, but each application file is acted upon as soon as possible after it is completed. Therefore, it is to the applicant's advantage to submit a completed form as early as possible.

Applicants will be notified, in writing, of the status of their application. No information on the status of an application will be given to anyone other than the applicant.

All inquiries, requests for forms, and other questions pertaining to admission to the college should be directed, in writing, to:

The Office of Admissions  
Northern Essex Community College  
100 Elliott Street  
Haverhill, Massachusetts 01830



CLEP APPLICANTS

Northern Essex Community College offers credit for life experience as measured by the College Level Examination Program (CLEP), both general and subject examinations as listed below.

General Examinations

Appropriate credit will be assigned by the Director of Admissions or the Director of Continuing Education and Community Services in consultation with appropriate division chairmen. Advisement concerning remaining degree requirements will be provided at individual interviews.

Subject Examinations

Successful completion of the following examinations will earn credit as though the equivalent Northern Essex courses (also listed) had been completed:

CLEP SUBJECT EXAMINATION	NORTHERN ESSEX EQUIVALENT COURSE
American Government	The Federal Government
American History	U.S. History I and II
Biology	Introductory Biology: Botany and Introductory Biology: Zoology
Computers and Data Processing	Introduction to Data Processing
Educational Psychology	Educational Psychology
Elementary Computer Programming (Fortran IV)	Scientific Programming
English Composition	English Composition I
General Chemistry	General Chemistry I and II
General Psychology	Introduction to Psychology
Geology	Physical Geology
Introduction to Business Management	Elective (Business)
Introductory Accounting	Introductory Accounting I and II
Introductory Business Law	Business Law I
Introductory Calculus	Calculus (Liberal Arts) I and II
Introductory Economics	Principles of Economics I and II
Introductory Marketing	Principles of Marketing
Introductory Sociology	Principles of Sociology
Money and Banking	*Money and Banking and Elective (Business)
Statistics	Statistics
Western Civilization	Western Civilization I and II

\*Course offered in the Division of Continuing Education and Community Services only.

Students may apply to the Office of Admissions or the Division of Continuing Education and Community Services, as appropriate, for granting of CLEP credit. A minimum of twenty-four semester hours of work, and the final year of work, must be done at Northern Essex in order for a student to qualify for a degree.



## ADMISSION WITH ADVANCED STANDING

Applicants who have completed courses at accredited institutions may transfer such courses to Northern Essex. Credit earned at other institutions will be evaluated on an individual basis. All credit earned at institutions other than Northern Essex will be evaluated by the Director of Admissions. Students will be admitted to the college with advanced standing under the following conditions:

Transfer credit will be awarded for courses that have been completed with a grade of C or better

Transfer credit will be awarded for courses that are applicable to the curriculum in which the student is enrolled

The student must complete the final year of work at Northern Essex. A minimum of twenty-four semester hours of work must be done at Northern Essex to qualify a student for a degree.

## ADVANCE PLACEMENT PROGRAM

Students who take Advance Placement courses and an Advanced Placement Test of the College Entrance Examination Board in secondary school may be awarded advanced placement and credit at the college. Credit is granted on the basis of a three or better grade on the Advanced Placement Test.





# Schedule of Fees

The Massachusetts Board of Regional Community Colleges establishes mandatory and discretionary fee schedules for all community colleges in the Commonwealth. At the present time, Northern Essex limits charges to the following fees:

## Day Division

Application Fee . . . . .	\$ 10.00
Activity Fee - per semester . . . . .	\$ 17.50
Insurance Fee - basic plan . . . . .	\$ 2.00
Degree Candidate's Fee . . . . .	\$ 15.00
Tuition: Massachusetts residents	
per semester, full-time students . . . . .	\$150.00
per credit hour, part-time students . . . . .	\$ 16.00
*Massachusetts non-residents	
per semester, full-time students . . . . .	\$300.00
per credit hour, part-time students . . . . .	\$ 16.00
Transcript Fee . . . . .	\$ 1.00
(per copy after initial copy at no cost)	

\*Massachusetts non-residents may qualify for New England Regional Student Program assistance to reduce tuition costs. Inquiries should be made to the Office of Admissions at the college.

## Division of Continuing Education and Community Services

Registration Fee . . . . .	\$ 3.00
Late Registration Fee . . . . .	\$ 5.00
Application for Degree Status Fee . . . . .	\$ 10.00
Tuition (per credit hour) . . . . .	\$ 20.00

# Full-time and Part-time Students

A full-time student is any student carrying twelve credit hours or more.

A part-time student is any student carrying less than twelve credit hours.



## Books and Supplies

Textbooks and other supplies are available at the Northern Essex Community College Bookstore.

Although the exact cost of books and supplies depends upon course selections, costs usually run approximately \$10.00 to \$15.00 per course. Students are required to obtain basic texts for each course and should plan to spend an average of \$45.00 to \$60.00 for books and supplies each semester.

All purchases from the bookstore are on a cash basis. Checks payable to the N.E.C.C. Bookstore are acceptable.

# Standards and Criteria for Academic Achievement

A highly regarded teacher was asked the secret of his extraordinary success with students. He said, "First I teach them that it is better to do it well than to do it badly. Many have never been taught the pleasure and the pride in setting standards and then living up to them."

Academic standards have been established at Northern Essex solely for the purpose of helping each student attain understanding, competence, and excellence in the program of studies he has selected.

The setting of standards is a three-way procedure between the student, the college and the professional and academic community. It begins with the college faculty who indicate by course syllabi the work included in each course and in each program of studies (curriculum). The next step is an analysis of our academic procedure by an association of professionals. Their approval confers accreditation and means that our course work will be accepted by other institutions and by professional and business people. Northern Essex received accreditation in 1969.

The student's role in the setting of standards occurs in two ways:

Students are members of the Curriculum Committee and Student Academic Affairs Committee of the college's Academic Council

The student sets his standards of performance when he selects a curriculum and registers for his courses at the college.

## The Curriculum – Program of Studies

Each program of studies is a product of cooperative educational planning by the administration of the college, the academic divisions of the faculty, and the Curriculum Committee of the college, working with the academic and professional community outside the college. Programs of studies are now available to students in twenty-nine academic and career areas.

In order to be graduated in one of these programs and earn an associate's degree, the student must be accepted into the program by the college — this is called matriculation.

The Division of Continuing Education and Community Services (evening and summer sessions) is responsible for five degree programs: Law Enforcement, Banking, Evening Nursing, Administrative Assistant and Administrative Assistant: Education Option. The other programs are conducted in the Day Division. However, once a student is matriculated, courses in both the Day Division and the Division of Continuing Education and Community Services are accepted toward a degree.

# Day Division and Division of Continuing Education and Community Services

The Day Division differs from the Division of Continuing Education and Community Services in two ways:

The Day Division is subsidized by the state in order to provide low tuition for students attending college on a full-time schedule

Students must maintain a prescribed academic standing in the Day Division in order to continue from one semester to another. There is no such requirement for taking courses in the Division of Continuing Education and Community Services. (Academic procedure for the Division of Continuing Education and Community Services may be found on page 41.)

The criteria on which academic standards are based at Northern Essex are discussed below. A supplement follows which gives detailed and supporting information not completely included in academic criteria.

## **CRITERION I – The Curriculum Plan**

The plan for each program of studies (pages 74 through 100) names certain courses which are specifically required in the program. The plan usually specifies other areas of study from which a specified number of courses must be selected by the student — these are designated as business electives, liberal arts electives, social science electives, etc. In certain programs, an opportunity is provided for the student to select a specified number of courses without restriction; these are usually called “electives”. Each curriculum plan states the total number of credit hours which must be earned to attain a degree.

The requirements for graduation are stated in Criterion II on page 29. They include:

- Passing all courses specified in the student's curriculum plan
- A cumulative quality point average of 2.00 (C average)
- Earning the total credit hours required for a curriculum.

## **Graduation in Four Semesters – Definition of a Full-Time Student**

Each curriculum plan is scheduled so that the student will graduate in four semesters. Graduating in four semesters requires a minimum of fifteen credit hours in a semester, and more than this in several programs. This time-table imposes a work load which frequently is too heavy for some students. The college therefore defines a full-time student as one who is carrying twelve credit hours in a semester.



## **CRITERION II – Grades**

The quality of a student's work is evaluated by a letter grade given by the professor in each class. An average of grades is compiled by assigning quality points for each letter grade. The points for each semester are added to those of previous semesters to form a cumulative quality point average (QPA). This cumulative average must be at least 2.00 (a C average) in order to be graduated. (See page 38 for computation of QPA). Grades earned for work in another college are accepted as transfer credit, but are not computed in the QPA at Northern Essex.

### **Replacing D and F Grades**

Students may replace D and F grades in one of two ways:

By repeating the identical course in the Division of Continuing Education and Community Services. If the particular course is not available in that division, the student may take the course in the Day Division as a special student, provided there is room in the course after full-time students have been accommodated

The student may repeat the subject in the Day Division during the course of his regular studies. However, the student may take not more than five courses during this semester without permission. Repetition of a course after two attempts must be approved by the Student Academic Affairs Committee. Students should see a counselor or faculty members for procedure. Whenever a D or F course is repeated, the higher grade shall be computed in the quality point average (QPA). There is no limit to the number of courses that may be repeated.

Students who do not carry the number of hours specified in their curriculum plan, who fail a course, repeat a course, or withdraw from a course will not graduate in four semesters unless those courses are made up in evening or summer session classes.

When the enrollment of the college permits, some students will be allowed to continue for a fifth semester. However, students cannot be accepted for a fifth semester in programs where admission is being denied to students who have not had an opportunity to attend college.

For these reasons, whenever possible, students should make up in summer sessions the courses scheduled in their curriculum plan which were not taken during the academic year.

The student is responsible for ascertaining the courses required in his curriculum and for meeting all other academic requirements. Academic information is usually complete in the catalog. However, changes are made between catalog printings. The student must therefore verify his academic plan each semester with an advisor. Counselors, instructors, department chairmen and the Dean of Students are available for this purpose.

### **CRITERION III – Semester Course Load**

The student establishes his own standard of performance and work load by the courses he selects each semester at registration. If he is not able to obtain all courses listed in the curriculum for that semester, he should take a course listed for a later semester and take the original course later on. He should never fail to check this choice with an advisor concerning requirements for sequence of courses. Senior students are given priority in registration.

*Taking fewer courses than curriculum specifies:* a student is encouraged to take the number of courses he feels that he can manage with good performance. However, he should note that the course omitted or its equivalent should be taken in summer session if he is to graduate in two years.

*Taking more courses than curriculum specifies:* usually more than five per semester. Students with no previous college experience should limit themselves to the number of courses in the curriculum schedule. Students who have attained a 3.00 average at Northern Essex or at another college may request the Registrar for approval to take an extra course. Approval will depend on the availability of class seats.

### **CRITERION IV – Attendance in Class**

Students are expected to attend each meeting of each class for which enrolled. The instructor of the class is given full and final authority to decide whether a student is permitted to make up work missed by absences, and on what terms.

In the event a professor recommends that a student be dropped from his course for non-attendance, the student must have been given warning in writing by the instructor prior to the last absence.

NOTE: Students have the option of withdrawing without penalty up to forty-five academic days after the beginning of the semester. When a student has missed four or more classes during the first forty-five day period, the instructor may recommend in writing that the student be dropped with a grade of W from the course, provided the student is warned in writing seven days prior to the time the withdrawal grade is recorded.

### **CRITERION V – Incomplete Course Work**

A mark of incomplete may be recorded by the teacher where the student has failed to accomplish all the work required in that course. This may be the result of work not handed in or failure to take the final exam due to illness or other extreme emergency.

When late work is handed in, the teacher can permit this only where reasons given are satisfactory and when work already done in the course is of passing quality. Otherwise, a grade of F will be given when the incomplete mark is changed.

Where the student, for causes beyond his control, has missed the final examination, the teacher must judge that the quality of work already done is such that by satisfactory performance in the exam he would complete the work with a passing grade. If the student's work shows that he would not pass the course regardless of the result of an examination, the mark will be converted to F.

Credit for an incomplete can be obtained only by finishing the work of the course within fourteen calendar days beyond the last day of classes. After this time, the grade shall become F.

All grades of incomplete will be computed as an F in arriving at a temporary grade point average. When the incomplete is later changed to a grade, the permanent record is also changed. The student will be notified as to whether his grade is F or has been changed to a passing value.

*The initiative for seeking to change an incomplete mark to a passing grade must come from the student.*

## **CRITERION VI — Courses Taken at Another College**

Transfer credit may be granted for courses taken (with a grade of C or better) at other accredited institutions when the course is applicable to the Northern Essex curriculum in which the student is enrolled. Credit earned at other than accredited institutions will be evaluated on an individual basis. The Director of Admissions will evaluate all credit from other institutions.

A student must complete his final year of work at Northern Essex. A minimum of twenty-four semester hours of work must be done at Northern Essex in order for a student to qualify for a degree.

Credit may be granted for courses which have previously been counted toward a degree which an individual has been granted, whether baccalaureate or associate degree, provided the above conditions have been met. Transfer credit will be discussed with the appropriate department heads whenever a professional accreditation may be involved, such as in Nursing, Respiratory Therapy, etc., or whenever a specific course description may require the expert evaluation of the department specialist.

Grades given for courses transferred from another college are not computed in the QPA at Northern Essex.

The educational design for each curriculum at this college is based on the premise that the student will fulfill the requirements for the degree from courses at this college, once he has been accepted into a degree program. However, when a student lacks one or two courses for a degree at Northern Essex and problems of distance, course availability, or class time make it very difficult to take the courses at this college, he may petition the Dean of Students to take the course elsewhere. He should request, by letter to the Dean of Students at Northern Essex, approval to take the course for credit toward the Northern Essex degree program in which he is enrolled, stating name of college, course number and complete course description. This alternative will only be approved in hardship situations and is subject to the following stipulations:

1. All conditions prescribed in paragraph above have been met
2. Approval is received by the student before taking the course.

### **CRITERION VII – Changing the Student's Academic Plan**

An effective learning process requires that students have opportunities to modify their goals and to explore varying options which may be available to them. Illness and personal problems may also impair the student's ability to do his work. For these reasons the college provides opportunities within the limits of our academic standards for students to change curricula, add courses, drop courses, withdraw from college and appeal decisions.

#### **Adding a Course**

A course for which a student did not register may only be added to his schedule during the **FIRST SIX ACADEMIC DAYS OF THE SEMESTER** as follows:

The Registrar must sign an **ADD FORM** indicating that there is room in the class and that the student's course load is within the limits prescribed by the college

The Registrar will advise the instructor that the student has been added to the class.

#### **Dropping a Course**

Any student may drop a course if he wishes. However, the grade in the dropped course is determined by the time period of withdrawal, as below, and by the student documenting date of withdrawal by filing the **DROP FORM** in the office of the Registrar.

Registration is a commitment which the student makes to learning. The first forty-five academic days of the semester give the student time to evaluate this commitment and his performance. A course dropped in the first fifteen



days will not appear on the academic record. If, after fifteen days, but before forty-five days, he finds he is not ready to perform well in a course, or his course load is too heavy, he may drop the course with a grade of W which does not affect his QPA. However, after forty-five days the student is committed to complete the course. If he withdraws after this time, his grade is WF which counts as an F in the QPA. The student, usually, will have to take a course in summer session to offset the one he dropped.

The student should seek the help of his instructors in making this evaluation. It is the responsibility of all students to seek help from their instructors in evaluating their performance.

Schedule for Dropping Courses

- Period 1      You may drop a course during the first fifteen academic days of the semester without having the course listed on your transcript
- Period 2      If you drop a course after the fifteen day period but before forty-five academic days of the semester, a grade of W will be recorded on your transcript. You are urged to consult your instructor before dropping the course
- Period 3      Any course dropped after forty-five academic days of the semester will receive a grade of WF. You are urged to consult your instructor before dropping the course.

Withdrawing from College

ANY STUDENT WHO WISHES TO WITHDRAW FROM THE COLLEGE MUST COMPLETE A WITHDRAWAL FORM WHICH CAN BE OBTAINED IN THE COUNSELING OFFICE. IF A STUDENT LEAVES THE COLLEGE WITHOUT COMPLETING A WITHDRAWAL FORM, THE TRANSCRIPT WILL RECORD F'S FOR EACH COURSE.

Schedule for Withdrawing from College

- Period 1      If you officially withdraw from college during the first fifteen academic days of the semester, no courses or grades will appear on the transcript
- Period 2      If you officially withdraw from college during the first forty-five academic days of the semester, but after the fifteen-day period noted previously, you will receive a grade of W in all courses
- Period 3      Withdrawal after the forty-five day period will result in grades of WP, if you are passing the course, or of WF, if you are failing the course.

In unusual cases an exception might be made to the above rule in regard to withdrawal from a course or from the college if necessitated by protracted illness or serious family problems. Decision for this will rest entirely with the college administration.

IF YOU DO NOT RECORD THE DATE OF YOUR WITHDRAWAL YOUR GRADES WILL SHOW ALL F'S. THIS WILL ADVERSLY AFFECT FUTURE OPPORTUNITIES TO ATTEND COLLEGE AND MAY INTERFERE WITH YOUR GETTING A JOB.

### Changing Curriculum

Students who wish to transfer from one program to another are encouraged to do so provided they are qualified for the new program and provided the program has room for them. Application should be made to the Dean of Students. A counseling interview with the division chairman associated with the new program is recommended.

The Dean of Students, working with the appropriate division and department chairmen will determine what courses from the old program can be transferred and will so advise the student and the Registrar. When a course is applicable to the new program, the course and the grade will be transferred. The Registrar will compute a new QPA based only on courses applicable to the new curriculum. However, all courses taken and grades received will appear on the academic record, even though they are not computed in the QPA.

### Appeals

Any member of the student body may make representations in all areas of student academic affairs to a Board of Recourse and Review. The membership of the Board of Recourse and Review are the elected membership of the Student Academic Affairs Committee of the Academic Council, which consists of eight faculty members and three students.

When a student feels he has been treated unfairly regarding an academic matter, or when there are special circumstances which have affected his academic performance, he has the right to take his case to the Board. The Board makes an examination of all aspects of the case and renders an opinion concerning the proper disposition of the case in accordance with the Charter of the Academic Council.

All proceedings are confidential. Detailed procedures are included in the Supplement to Academic Standards (see page 38) and should be carefully studied before the student takes any action.

## **CRITERION VIII – Academic Standing**

A student's academic standing indicates the progress he is making toward a degree and measures his eligibility to return the following semester. The college understands that the transition from high school is difficult. For this reason students may continue their work beyond the first semester when their average is below the graduation requirement (2.00). When this happens it is much harder for a student to progress because his later grades must be higher than a C to attain a C average for all his work. For this reason, a minimum average is required to continue from one semester to another.

There are three categories of academic standing: good standing, probation and suspension.

### ***Suspension***

Students who attain less than the minimum average are suspended, are not eligible to return in the following semester, and are automatically dropped from the college rolls.

Students on academic suspension are encouraged to raise their quality point averages and continue their education through successful completion of courses in the Division of Continuing Education and Community Services at Northern Essex.

They may apply for readmission after one semester or summer school. Their acceptance at that time will be governed by:

- Their having completed work in summer or evening courses which demonstrates college ability

- The number of spaces available in the college at that time.

Students may take courses in the Division of Continuing Education and Community Services at any time regardless of academic status as defined above. However, courses in the Division will be included in attempted hours.

### ***Academic Probation***

Probation is a warning to a student that unless he is able to improve his grades, he may not be eligible to return in the following semester. This means that he should re-examine his approach to college by:

- Taking action to change the quality of his academic work

- Working out his plans with a counselor or faculty advisor

- His plans might include getting financial aid, reducing his course load, spending less time on his job, changing his study habits or asking for help with his personal problems.



## Quality Point Requirements for Academic Standing

ATTEMPTED CREDIT HOURS	GOOD STANDING	PROBATION	SUSPENSION
1 or more but less than 20	1.50	Below 1.50	Below 1.00
20 or more but less than 37	1.75	Below 1.75	Below 1.50
37 or more but less than 55	1.90	Below 1.90	Below 1.75
55 or more	2.00	Below 2.00	*Below 1.90 **Below 2.00

\*When 55 or more credit hours, but less than 9 hours beyond the total required by the curriculum in which the student is matriculated, have been attempted

\*\*When 9 hours beyond the total required by the curriculum in which the student is matriculated have been attempted

The college reserves the right to advise both student and parent of academic probation, and the advisability of abandoning, or severely curtailing, extra-curricular activities or employment.

### CRITERION IX — Graduation

Northern Essex Community College awards Associate Degrees in Arts and Sciences to all qualified students at commencement exercises for each class. In order to receive this award students must meet the following requirements for graduation:

- Completion of all required courses in a curriculum with a passing letter grade

- Completion of the number of credit hours prescribed by a particular curriculum

- Attainment of a cumulative quality point average of 2.00 or higher

- Completion of the petition for graduation

- Students must petition for graduation before the end of the semester prior to the semester in which they plan to graduate; i.e., students planning to graduate in June must petition for graduation before the end of the previous fall semester

- Payment of all financial obligations.

## **CRITERION X — Honors**

### **SEMESTER DEAN'S LIST**

Each semester a student is appointed to the Dean's List for academic honors if he fulfills the following requirements:

He is a candidate for a degree

He is carrying twelve or more credit hours within the semester

He attains a quality point average of 3.00 or higher within the semester

### **Academic Distinction**

High honors are awarded during commencement to all students with a cumulative quality point average of 3.50 or higher.

Honors are awarded during commencement to all students with a cumulative quality point average from 3.00 to 3.49, inclusive.



# Supplement to Academic Standards

## Operating Procedures

### Marks, Quality Points, Credits

All marking is done according to a letter system in which A represents excellent work; B, good; C, fair; D, merely passing; I, incomplete; F, failure; W, withdrew; WP, withdrew passing; WF, withdrew failing. Grades are issued at the end of each semester by mail. No grades will be given over the telephone.

For arithmetical purposes, grades are given points called quality points:

A	= 4 quality points per credit hour
B	= 3 quality points per credit hour
C	= 2 quality points per credit hour
D	= 1 quality point per credit hour
F	= 0 quality points per credit hour
WF, I	= 0 quality points per credit hour

A student's quality point average is determined by dividing the number of credit hours attempted into the number of quality points earned. The quality point average is cumulative.

### Attempted Credit Hours

Attempted credit hours equal credit hours completed in a semester with a letter grade of A, B, C, D, F, WF, or I. It does not include W, WP. It does not include non-credit courses. When a course is repeated the higher of the two grades will be computed in the QPA; only the credit hours for the higher grade will be included in cumulative attempted hours; the transcript will record both times the course was taken, but will compute only the higher grade in the QPA. Courses taken in the Division of Continuing Education and Community Services will be included in attempted hours.

### Computation of Quality Point Average

The academic standing of a student is based upon his quality point average. It is therefore important that each student be able to compute his QPA at any given time. The following example should help you calculate your QPA:

All grades are averaged to determine a student's academic standing as follows: credit hours in each course (3 hours) x quality points = QPA. Therefore, if you received the following grades in the following courses at Northern Essex your QPA would be computed as follows:



SUBJECT	LETTER GRADE	QUALITY POINTS PER CREDIT HOURS	CREDIT HOURS	TOTAL QUALITY POINTS
English Composition	A	4	x 3	= 12
Introductory French I	C	2	x 3	= 6
Finite Mathematics I	D	1	x 3	= 3
Invertebrate Zoology	A	4	x 4	= 16
Introductory Psychology	B	3	x 3	= 9
			16	46

$$16 \overline{)46} = 2.87 \text{ Quality Point Average}$$

Steps in Calculation:

- Quality points x credit hours = total quality points (each subject)
- Add total quality points for all subjects to obtain cumulative total of quality points
- Add credit hours for all subjects
- Divide total cumulative quality points by total cumulative credit hours
- The result is your quality point average

### Cumulative Quality Point Average

If your second second semester, you take sixteen credit hours of work and receive a total of forty-three quality points, your cumulative quality point index would be calculated as follows:

First Term	Second Term
16 hours	16 hours
46 quality points	43 quality points
16 + 16 = 32 hours	
46 + 43 = 89 quality points	
32 $\overline{)89}$ = 2.78 Cumulative Quality Point Average	

Again dividing the total points by total hours, your cumulative quality point average would be 2.78.

### Procedure for Requesting Waivers

Written approval for the sources listed below must be received by the Registrar before a waiver can be implemented:

- Category 1     **Waiver of a Course Prerequisite:** When a course is listed as a prerequisite for another course and a student wishes to register but has not fulfilled the prerequisite, a request for waiver of the prerequisite may be made, on a form provided by the Registrar, to the instructor of the course and the chairman of the academic department which offers the course.

Category 2     **Waiver of a Curriculum Requirement:** When a course (or courses) are listed as requirements for a degree in a given curriculum and a student wishes to obtain the degree without taking such a course (or courses), he may make a request for waiver to the Dean of Students. The Dean of Students shall consult with the appropriate division and department chairmen in formulating a decision. The Dean of Students may also refer such requests to the Board of Recourse and Review of the Student Academic Affairs Committee for an advisory opinion.

### **Mid-term Grades**

No mid-semester grades are given at Northern Essex. All students have the right to require written evaluations from their instructors at any time during the semester.

### **Post-Graduate Courses**

A course taken after graduation will not be included in graduation QPA. A course taken before graduation and repeated after graduation will not replace the earlier grade. A new academic record will be compiled for work done after graduation.

### **Procedure for Altering Student Grades**

In order to alter the final grade of a student, instructors should submit the attached form with the following information on it:

Name of student

Name of course and section

Grade originally reported

New grade

Brief but comprehensive statement of reason for making change; e.g., clerical errors, error in computing grades

These requests for a change of grade will be submitted to the Office of the Dean of the College. Instructors requesting changes will be notified of the action of the Dean of the College.

In order for a change of grade to become official and permanent, all of the above procedures must be followed.

# The Division of Continuing Education and Community Services

The Division of Continuing Education and Community Services provides educational opportunities to everyone interested in college study on a part-time basis. The division serves a variety of age groups in the community, with a central focus on the learning and interest needs of adults. The primary goal of the division is to help people expand their horizons, improve existing skills or learn new ones, grow in scope of interest, in understanding and in personal satisfaction.

Continuing education provides an answer to the growing need in our modern world for life-long education for everyone — what people need, when they need it. There are no requirements for admission — the division is open to all. People can matriculate in a degree program, take a course because it appeals to them, or develop a technical skill for a better job. They can take a developmental course to help them evaluate their educational potential, choose a special interest course or participate in workshops and seminars.

The Division of Continuing Education and Community Services provides low cost, relevant education for all. The program is planned to respond, quickly and accurately, to the needs of the community. The division provides an alternative entry into Northern Essex Community College for people seeking a part-time educational program.





## **THE DIVISION'S ACADEMIC POLICIES**

### **Academic Standards**

The difference between college study in the Division of Continuing Education and Community Services and college study in the Day Division is the approach students take toward their educational goals. Day Division students make college a full-time job. In the Division of Continuing Education and Community Services, most students are fitting education into already busy schedules at home, or on the job.

Standards and requirements in the division are identical to those in the Day Division:

- Course content is identical
- Scholastic standards are equivalent
- Specific curriculum requirements are identical
- Course hours are equivalent
- Credit hours earned are identical
- Counseling services are equivalent

The only exception to the above is the slate of non-credit, special interest courses offered in the division.

### **Admission**

There is no official application form for admission to the Division of Continuing Education and Community Services. Anyone may register for any course offered in the division. There are no general requirements for admission. A high school diploma is not necessary for registration. Students who wish to matriculate in an associate degree program, however, must meet the admission requirements of the college.

## **THE DIVISION'S SUMMER SESSION**

The Division of Continuing Education and Community Services provides summer sessions as another educational opportunity. College students may take courses to shorten the length of their total programs. Students from other colleges may take courses. Summer session is an opportunity for adjusting a poor course grade or taking specific courses needed for transfer. Students in the college's developmental programs may take courses to qualify for admission to the college. High school graduates may take basic courses to get an early start in their college careers.

Summer classes are held in three sessions. Two sessions meet mornings, Monday through Friday, for four weeks. The third session meets two

evenings a week for eight weeks. Standards in class and laboratory work are the same as those in the academic year. The pace of course work, however, is accelerated in the summer sessions and each course is the equivalent of a semester's work. Most of the basic courses of the academic year are offered in the summer. Students are limited to thirteen credit hours of course work, including evening and morning section courses, except with the permission of the Director of Continuing Education and Community Services.

No official application form is necessary for admission to summer sessions. Registration dates for summer are announced prior to the beginning of classes in a summer sessions brochure published by the division. Registration is completed when the registration form is returned to the college and all fees are paid. Many students find it convenient to register early by mail. Fees must accompany the mailed registration forms.

Students who wish to withdraw from, add or substitute a course must fill out a DROP/ADD form available in the Office of Continuing Education and Community Services. Any student who does not officially withdraw from a course will receive a failing grade for that course. The summer session brochure lists DROP/ADD deadline dates for each year.

Counseling is available during registration, and throughout the summer sessions on a regular schedule announced at registration.

## **THE DIVISION'S CREDIT COURSES**

Credit courses in the Division of Continuing Education and Community Services are offered in a wide variety of subject areas:

- Courses may be taken with or without credit by people who wish to add to their general knowledge

- Technical courses are available for people who want to learn new skills, or increase existing skills

- Refresher courses are provided in career areas

- Transfer courses and college make-up courses are offered

- Pre-college developmental courses are available.

High school drop-outs, college students who need a specific transfer course, housewives, working people — all kinds of adults study individual courses in the division. Taking a credit course is a way for people to explore the idea of getting a college degree and to assess their ability to do college work. Many students in the division decide to matriculate in a degree program after completing several credit courses. Others prefer to study without formalizing a particular educational plan immediately. Credit course study in the division is flexible.

## THE DIVISION'S COMMUNITY SERVICES

The community service phase of the Division of Continuing Education and Community Services is designed to effectively reflect the interests of the community. Workshops, seminars, off-campus affiliations, movie series, conferences, dance programs and other programs are examples of community services. As a community service, the division provides special courses and training sessions when requested to do so by responsible community organizations.

### Special Interest Courses

A diverse slate of non-credit, special interest courses is offered each semester in the division. The course list changes from semester to semester as community interests vary:

Special courses in helping children to learn, in understanding drug psychology and in making marriage work are provided

Courses are available in hypnosis, understanding tax problems and planning family finances

A course in English as a Second Language reaches people in their own neighborhoods

Art courses in drawing, oils, water color, crafts, cloth-making, weaving and other techniques are offered for beginning and advanced students

Yoga, karate, fly-tying, square dancing and many other physical education and recreation courses are available.

### Community Groups

The division's community service program is geared to the community group as well as the individual. The division is an active resource for area anti-poverty programs, neighborhood groups, the Emergency Employment Act programs, schools and businesses. The division offers community groups the opportunity to coordinate and develop — as well as participate in — workshops and conferences in conjunction with the college.

### High School Equivalency

Working in conjunction with the Discovery program at the college, the division sponsors a General Educational Development (GED) preparation course and testing program. Northern Essex is an official GED testing center and many hundreds of area citizens have qualified for high school equivalency diplomas at the college. The broadly based GED preparation course reaches out to locate people who need a high school equivalency diploma, motivates them to prepare for a GED test, suits the preparation material to the needs of the individual, and provides extensive personal and employment counseling.



## THE DIVISION'S DEGREE PROGRAMS

Degree programs in the Division of Continuing Education and Community Services are available in ten areas:

THE ASSOCIATE IN ARTS — Liberal Arts

THE ASSOCIATE IN SCIENCE — Banking  
Accounting  
Administrative Assistant  
Administrative Assistant:  
Education Option  
Law Enforcement  
Nursing (Evening Program)  
Business Transfer  
Business Management  
Secretarial Science

In addition to the eight degree programs offered, students may do some course work in the following programs:

Child Care	Computer Technology
Educational Assistant	Mental Health Technology
Engineering Science	Nursing Home Administration
Electronic Technology	

It is possible for a student to earn the associate degree in the division in three years, by successfully completing required course work in six regular semesters and two summer sessions. There is, however, no limit to the amount of time a student may spend fulfilling the requirements for a degree.

### Matriculation in a Degree Program

Many Division of Continuing Education and Community Services students decide to matriculate in a degree program after completing several individual courses. Students should not delay matriculation after completion of twelve credit hours of work. The student is responsible for satisfying the degree requirements of the program he selects. The last twenty-four hours of work, and the last year of work, in a degree program must be completed at Northern Essex.

Some students who have completed twelve credit hours may not meet the requirements for admission to a degree program. These students may continue to attend courses in the division as special students provided they are profiting from college work. Credit received for courses taken while a non-degree student may be applied toward a degree, where appropriate, should the student later become a degree candidate.

## Requirements for Admission to Degree Status

Students who apply for admission to degree status should take the following steps:

Obtain and complete the application form for matriculation to degree status available in the Office of Continuing Education and Community Services

Present a high school diploma or equivalent

Provide transcripts of high school and college records

## Registration

There are two methods of registration in the Division of Continuing Education and Community Services:

**Pre-registration by mail:** students may obtain a preregistration form from the Office of Continuing Education and Community Services or from the brochure published by the division prior to each semester, complete the form and return it with a check or money order payable to Northern Essex Community College in the amount of:

Tuition (per credit hour) .....	\$20.00
Registration Fee.....	3.00

**Registration period:** registration is held during a special period preceding the beginning of classes for a semester. Students may come to the college at that time, complete the registration form and pay the registration tuition and fee.



# The Division's Services

## FACILITIES

All of the facilities of the college — the library, classrooms, the gymnasium, the laboratories, the faculty, the counselors — are available to students in the Division of Continuing Education and Community Services.

## COUNSELING

Counseling is available at the registration center throughout the registration period. New students, and students not certain of their educational direction, are particularly urged to make use of the counseling service for help in selecting the courses best suited to their individual needs and goals.

Counseling is available throughout the spring and fall semesters and during summer session on a regular schedule announced at registration.

Counseling is also available daily at the Office of Continuing Education and Community Services. Office hours are 8:00 A.M. to 5:30 P.M. and 6:00 P.M. to 9:30 P.M. Monday through Thursday, and 8:00 A.M. to 4:30 P.M. on Friday. Anyone interested in continuing his or her education is free to use the counseling services at the college. *It is not necessary to be a student at Northern Essex to talk to counselors.*

## AUDIT COURSES

Courses for audit are available. Students who audit courses register as usual and pay the regular tuition, but they take no examinations, receive no grade, and earn no credit hours.

## COURSE CHANGES

Students who wish to withdraw from, add or substitute a course must fill out a DROP/ADD form available at the Office of Continuing Education and Community Services. It is not sufficient to tell your instructor that you are dropping a course. Any student who does not officially withdraw from a course will receive a failing grade for that course.



Students who withdraw from a course prior to the second class meeting are entitled to a full tuition refund. The registration fee is non-refundable. There is no refund of tuition after the stated period. No notation of withdrawal is made on the student's record during this period.

Courses may be withdrawn without penalty on or prior to the tenth day after mid-semester. A grade of W (Withdraw) will be assigned, but not computed on the student's record.

Students withdrawing from a course after the period stated above will be assigned a grade of W/F (Withdraw Failing) which will be computed on the student's record.

Students withdrawing from all courses after the period stated above, which implies leaving the college, will be evaluated by their instructors and a grade of W/F or W/P (Withdraw Passing) assigned for each course.

Courses may be added or substituted before the second class meeting without notation on the student's record. No course may be added or substituted after this date.





## **CLASSES**

Most classes in the Division of Continuing Education and Community Services are held evenings, Monday through Thursday. Other classes are scheduled during the day or on Saturday mornings. The fall and spring schedule of classes corresponds roughly to the college's academic calendar. Recognized holidays are observed. Classes missed must be made-up; the make-up method is printed in the division's semester brochure.

## **FACULTY**

The faculty for the Division of Continuing Education and Community Services is drawn largely from members of the Northern Essex faculty, supplemented by selected professors from other colleges. From time to time, recognized community leaders with specialized skills join the staff.

## **BROCHURE**

A Division of Continuing Education and Community Services brochure is published three times a year, prior to fall semester, spring semester and summer session. The brochure details the academic courses and the list of special interest courses to be offered in a semester. Registration forms, dates and times are listed and a calendar is included. In addition, other brochures or pamphlets are published to announce specific events.

# Student Government

## STUDENT GOVERNMENT ASSOCIATION

College student governance is an exercise in democracy. Active participation in this phase of campus life helps the student develop toward one of the ultimate goals of education — the emergence of an individual who can function effectively in the world in which he lives.

The Student Government Association is the official governing body for students at Northern Essex. Through its elected representatives and their appointees, students are involved in many different areas of governance. Each student becomes a member of the Student Government Association when he pays the activity fee.

The following structure shows the various ways in which student affairs are governed at the College.

## STUDENT COUNCIL

Members of the Student Government Association elect a slate of students who speak for the entire student body as members of the Student Council.

The Student Council participates in the formation of student organizations, and takes an active role in the assessment of student needs in planning for extra- and co-curricular activities. The council is the representative voice of the students. The council acts and reacts to student demands, and brings leadership and student representation to all levels of college life.

## ACADEMIC COUNCIL

The Academic Council is a working coalition of students, faculty and administration which acts as an advisory board in the governance of the college. Through membership on the Academic Council, students become involved in the demanding work of decision-making for the college as a whole. There are twelve student body representatives seated on the Academic Council.

## CLASS OFFICERS

Students at Northern Essex may complete requirements for a degree in the spring or fall semester, depending upon the date they entered the college and other factors. There are, therefore, no freshman and senior classes, per se. However, graduation exercises are held in June of each year and, in

terms of governance, students are divided into freshman and senior classes according to the year in which most members of the class plan to graduate.

Freshman and senior class members elect officers who concern themselves with the affairs and activities special to a group of students planning to graduate at the same time. These officers also contribute ideas and experience to the entire college community.

## **STUDENT ADVISORY COMMISSIONER**

The Student Government Association elects one representative to the Student Advisory Commission to the Massachusetts Board of Regional Community Colleges. This commission discusses the mutual concerns of community college students throughout the state, and makes recommendations to the Board.

# **The Activity Fee**

The Activity Fee is the funding source for the extra-curricula life of the students at Northern Essex. It is budgeted by the Student Council and allocated by the Director of Student Activities. The Activity Fee allows students the opportunity to plan their own life.

Students become members of the Student Government Association when the Activity Fee is paid. The fee promotes and supports activities which enrich the social and educational life of students as a whole. It finances budgets for recognized college clubs. It provides concerts, dances and social events. It pays for athletic supplies and equipment. It provides health services, finances the Northern Essex student-operated radio station, WRAZ, and subsidizes publication of the college yearbook.

The Activity Fee entitles students to:

Subscriptions:	to the college newspaper to the college events bulletin to the college literary magazine to the student handbook to the college directory
Admission:	to Freshman Orientation Day to Field Day to some concerts and social events to inter-collegiate sports events to intra-mural sports events
Receipt:	of an official identification card of a student parking sticker of college health services

All students are required to pay the Activity Fee. The fee is non-refundable.



# Student Conduct

A community college belongs to the people it serves — to its students and their parents. It is not an isolated entity, separate from the world around it. The college expects its students to remember that, at all times, individually and in groups, publicly and socially, they are part of the image of Northern Essex Community College.

No student, or group of students, may use or imply the name of Northern Essex in any publication, public performance or social activity without the prior permission of the President of the College or his designated representative.

Just as the college is a part of the community, each student at Northern Essex is a part of the academic community. When he enters the college, each student assumes a personal responsibility for maintaining integrity and consideration in his dealings with others.

When a student signs the application form for Northern Essex, he commits himself to make sure that his work meets the college's standards; that he attends required classes and meets all financial obligations; that he respects the regulations, social and academic, of the college; and that he is always aware of the rights of others.

Northern Essex assumes that its students will handle themselves properly without watchdog supervision, and attempts to keep corrective action to a minimum. However, a student who neglects his commitment to the regulations of the college must expect the college to take such action as the circumstances of the case demand.

There are three levels of corrective action used by the college in handling problems of unsatisfactory student conduct:

**Probation** limits the students right to participate in extra-curricular activities which are sponsored by the college.

**Suspension** withdraws the student's right to attend classes at the college for a designated length of time. A suspended student may, at the end of the designated period, request readmission to classes.

**Expulsion** withdraws the student's right to attend classes at the college permanently. There is no provision for the readmission of expelled students. No expelled student shall receive an honorable dismissal from the college.

# Narcotics, Drugs and Illegal Activities

Northern Essex Community College conforms with state and federal regulations concerning the use of alcoholic beverages.

The college complies with state and federal laws governing the possession, use and sale of drugs, narcotics and other illegal substances. Illegal activities or the possession, use or sale of illegal substances on college property is unsatisfactory conduct subject to corrective action by the college administration.

Such activities detract from the personal, social, educational and vocational growth of students. For this reason, although the college will energetically enforce the prohibitions against illegal substances on college property, it has a greater interest in encouraging and helping students to deal with the issues which lead to narcotic or alcohol abuse.

The use of alcohol and other drugs is often a substitute for dealing with more basic personal problems such as finances, dissatisfaction with school or difficulties in relationships with peers, parents or mates. Northern Essex encourages students to work with the real issues affecting them rather than getting "high" and making believe that these problems don't exist.

Most students find it difficult to make a beginning on solving basic issues without help. Help from student volunteer counselors or from professional counselors is available in Northern Essex's Center for Personal Growth in all matters of student concern ranging from finances and academic performance to discouragement and personal relationships.

Counselors in this college have the right and the obligation to maintain privacy in all student contacts. Counselors are trained to help in all facets of personal growth and have access to outside resources to which a student may be referred in complete confidentiality. No information may be communicated from counselor contacts for use in administrative action. The Center for Personal Growth is located in Room 020 in the basement of the Learning Resource Center. The Drop-In Center, with student volunteer counselors, is on the main floor of the College Center.

# Health Services

Before matriculation, students must complete a form describing their general health and any medical abnormalities of which the college should be aware.

The Health Service, located in the Physical Education Building, is staffed by a registered nurse under the direction of the college physician. The Health Service is open throughout the day. The college physician has regularly scheduled clinic hours during the academic year.

The Health Service will provide treatment, medication, referral, and follow-up as needed. Counseling will be done by nurse or physician with referral to outside facilities when necessary. Consultants in various specialties from the surrounding area are also available for treatment and advice. Laboratory tests and x-rays are referred to an outside hospital.

No charges are incurred by the student for Health Services. However, the student is responsible for all outside expenses. Emergencies will be treated at the Health Service or sent directly to nearby Hale Hospital. For serious illnesses or injuries, an ambulance service is available at all times.

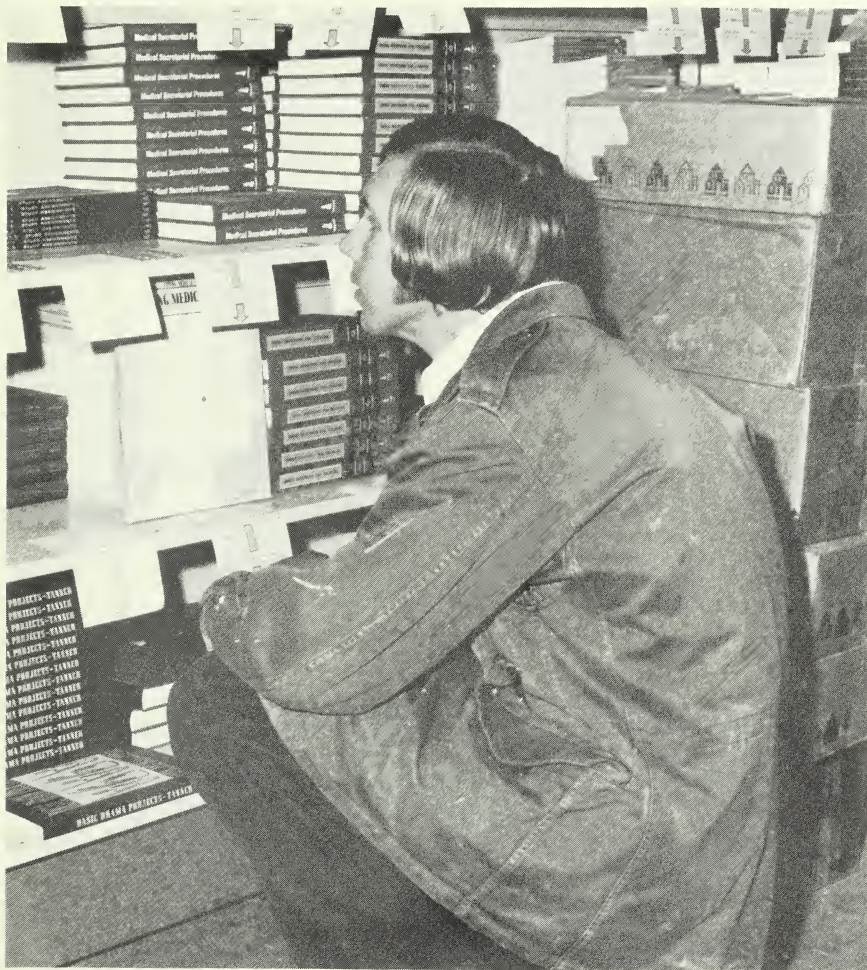
All students are protected against accidents at the college, or during college-sponsored activities, through payment of the Activities Fee. Students are encouraged to elect, at a nominal additional premium, to extend coverage to the twenty-four-hour-a-day period, twelve months per year, and to extend coverage for accidents, and sickness coverage not involving accident, through the Supplemental 24-Hour-All Accident and Sickness Insurance Medical Plan. This is especially important for students who will become 19 years of age during the college year, and may not be eligible under their parents' plan.





# Dormitory Facilities

No housing facilities are provided by, or supervised by, the college. Students who wish to move into the immediate college area may rent housing. Students are expected to respect the rights of the people from whom they rent housing, and conduct themselves courteously.



## Change of Address

If at any time a student changes his legal or mailing address, he should notify the college immediately, so that his records can be brought up to date.



# Athletics

The athletic program at Northern Essex is divided into three categories to encourage student participation on many levels and to allow athletic development according to individual interest and ability:

## CLUB SPORTS

Many athletic areas are represented by student clubs. Club activities provide the most informal and available way to participate in athletics.

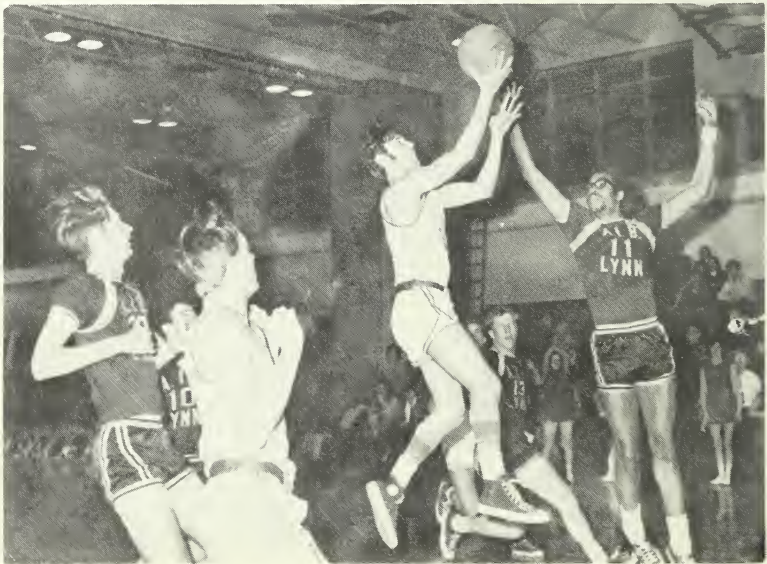
## INTRAMURAL COMPETITION

Intramural sports at Northern Essex include basketball, volleyball, touch football, field hockey, softball, hand ball, baseball, soccer, table tennis and track. The basketball tournaments attract many teams.

## INTERCOLLEGIATE COMPETITION

The intercollegiate sports program includes men's and women's basketball, golf, tennis and cross-country. Northern Essex retired the trophy in the Small College Basketball League in 1971, after three seasons of championship ball.

The college campus has extensive athletic facilities, including a new gymnasium; baseball, field hockey, handball and touch football fields; outdoor basketball facilities and extensive tennis courts.



# Student Organizations on Campus

Every student needs an opportunity for action outside the classroom. He needs the chance to try himself, test things out, have new experiences. Such opportunities occur in classroom work, but student activities offer an even broader opportunity.

Students see new places, meet new kinds of people and work in relatively unstructured situations with fellow students in clubs at Northern Essex. Some students may discover in club involvement areas of interest which eventually become careers.

There are now twenty-three student organizations at Northern Essex and new clubs are established as students need them. Every student is eligible to choose an organization which fits his personal interests and talents — or to choose a club which will open new doors for him.

## **BUSINESS CLUB**

The Business Club organizes student participation in career-oriented business activities. The club is a resource for the business community in business research and economic development. Members interested in teaching offer counseling and tutorial services to other club members. The Business Club works closely with the Secretaries Club in areas of common interest.

## **CHEERLEADING CLUB**

The Cheerleading Club encourages students to learn dances, chants, songs and other techniques used to support the efforts of athletic teams at the college.

## **CHESS CLUB**

The Northern Essex Knights Chess Club specializes in instruction and practice for chess enthusiasts. The club sponsors chess meets and tournaments.

## **CONTEMPORARY AFFAIRS SOCIETY**

Members of the Contemporary Affairs Society exchange views to broaden their understanding and knowledge of history and contemporary problems. The club sponsors public forums, and model United Nations delegations. Lectures by guest speakers are arranged.

## **DRAMA CLUB**

The Drama Club, with its membership and faculty participation, creates plays, talent shows and social comment scenarios to develop a deeper knowledge and interest in the dramatic arts for members, the college and the community.

## **ELECTRONS CLUB**

Members of the Electron Club focus on gaining a broader knowledge of applied electronics. The club sponsors demonstrations, special projects and experience in dealing with electronic equipment.

## **HOCKEY CLUB**

The Hockey Club offers competitive sport for experienced players and developmental opportunities for the novice. The club is concerned with team, as well as individual, skills. The club rents weekly ice time at the Haverhill Rink and provides ample opportunity for players of varying skills to play and learn.

## **INTERNATIONAL CLUB**

The aim of the International Club is to present students with information on the attitudes, mores and emphases of the cultures of the world — not in order to come to a conclusion on the relative worth of different cultures, but to learn, observe, appreciate and understand different cultures. Guest speakers talk about their own cultures, or those they have observed while traveling. Lectures, films and slides are utilized.

## **MARTIAL ARTS CLUB**

The Martial Arts Club provides instruction and practice from a certified instructor in the art of Karate. Practice sessions occur weekly for two hours. Individuals at all levels of experience are welcome.

## **LITERARY SOCIETY**

The Literary Society pursues literary activities on an intellectual basis, without the necessary limitations of a set curriculum; encourages interest in writing on the part of the students by its publication, PARNASSUS.

## **MUSIC CLUB**

The Music Club provides the opportunity for students interested in any and all aspects of musical experience to gather and share talents and interests.

## **OUTING CLUB**

The Outing Club is involved with any and all outdoor recreational activities: camping, canoeing, mountain climbing, hiking, scuba diving, swimming, tobogganing, skating, surfing, skiing — the activities are limited only by the interests of the members. The club promotes safety and sportsmanship, and an appreciation of the benefits of outdoor life.

## **PHILOSOPHY CLUB**

Student discussion, faculty panels, and visiting lecturers are the tools used by the Philosophy Club members to develop their philosophical concerns and ideas.

## **PHOTOGRAPHY CLUB**

The Photography Club provides fundamental training in picture-taking techniques, development, enlargement, print-making, and photo finishing skills for novices through use of the traveling dark room of the club. It sponsors illustrated lectures, field trips, contests and print competitions. The club also attempts to service the photographic needs of students and faculty.

## **PUBLIC RELATIONS BOARD**

The Public Relations Board provides opportunities in writing and editing of news releases, and experiences in other aspects of the public relations function. The Board sponsors the student publication, *The Happening*; works to communicate clearly and effectively information pertinent to the activities of the college.

## **RADIO CLUB**

The Radio Club offers opportunities for broadcasting experience through the Northern Essex radio station, WRAZ, operating out of the gymnasium. The station broadcasts into the lounge areas of the college and future plans include expansion to FM broadcast capabilities.



## SECRETARIES CLUB

The Secretaries Club promotes interest in the secretarial field as a whole, and helps to make members more aware of the many special career opportunities available. In cooperation with other interested clubs, the club is also concerned with involvement in projects for civic betterment.



## STUDENT NURSE ASSOCIATION

The Student Nurse Association aids in the preparation of student nurses for the assumption of professional responsibility. It provides opportunity for leadership, self-expression, personal and professional growth. The club is deeply concerned with developing closer bonds and more cooperative attitudes between nursing students and graduate professional nursing organizations. The club is a channel of communication between nursing students and their professional futures.

## **STUDENT TEACHERS CLUB**

Members of the Student Teachers Club have the unusual opportunity of observing and doing practice teaching in the very first year of college training. Students may work in the grade or in the subject area in which they intend eventually to teach. They go into the parochial or public schools for a couple of hours, twice a week, for ten weeks. Students meet regularly to discuss their classroom experiences and problems. There are also field trips and guest speakers.

## **SURF CLUB**

The Surf Club encourages the novice to try surfing and sponsors group activities among its own members, and in conjunction with other outdoor-oriented clubs at the college.

## **SKI CLUB**

Members of the Ski Club emphasize skiing as a participant sport and encourage development of the novice. The club plans ski trips and sponsors projects and social events for the college as a whole.

## **TENNIS CLUB**

The Tennis Club offers the opportunity for students at all levels of ability to receive practice and instruction in tennis. It also sponsors college-wide tournaments in singles, doubles and mixed-doubles competition.

## **VETERANS CLUB**

The Veterans Club was designed by the many veterans on campus for the purpose of sharing common experiences and providing information about benefits and help for veterans. The club also sponsors special events such as road rallies and fishing trips.

# Student Publications

## THE LUMEN

The Lumen publishes the college yearbook. Staff positions offer a variety of challenges to students in the many aspects of publishing.

## NECCO

The Northern Essex Community College Observer (NECCO) publishes the student newspaper. NECCO is the voice of the students. There are many varied staff positions and all students are encouraged to submit articles, news releases and opinions for publication.

## PARNASSUS

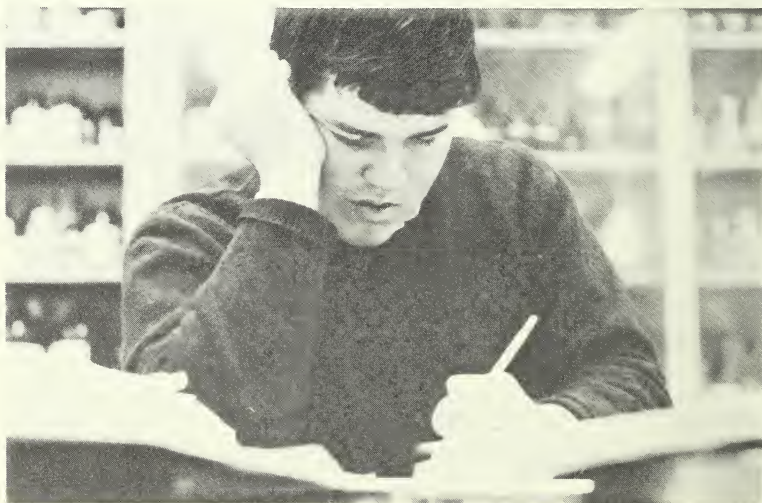
Parnassus is the magazine of the Literary Society, an organ of literary journalism; students are encouraged to submit articles, poetry, fiction, photography and art for editorial consideration.

## THE HAPPENING

The Happening, written by the student Public Relations Board, is a publication which includes a digest of the week in preview: news; organization-sponsored events, athletics and academic information.

## THE REAL NEWS

The Real News publishes a semester newspaper reporting the activities of students attending Northern Essex in the Division of Continuing Education and Community Services .



# Learning Resource Center

The Learning Resource Center stores the tools of learning, helps students understand and use these tools, provides material which directly supports the curricula offered at the college, and acts as liaison between the classroom experience and the broad spectrum of modern resources for learning.

The Learning Resource Center is a multi-media center which presents learning in every form — the printed word, the spoken word, the visual image. It contains over 35,000 books, 254 periodicals and newsletters, and a substantial microfilm backfile of periodicals. The book collection is continually enlarged and strengthened. It is arranged by Library of Congress Classification and freely accessible to students.

The Learning Resource Center stores tapes, films, slides, cassette tapes, transparencies, filmstrips, microfilm, microfiche and sound recordings. Readers for microfilm and microfiche are provided and personalized staff service is always available to help students make effective use of these learning resources.

The Center is a spacious building. Over four hundred students can be comfortably accommodated. Listening rooms, informal study areas and study carrels are provided. Staff media specialists give formal instruction in the use of the center to first-year students. In-service training programs are offered for faculty members.

The Learning Resource Center, like the rest of Northern Essex campus facilities, is in the process of extending and developing its new quarters. Designs for future center learning tools are in the planning stages and include the following technical capabilities:

## ***ELECTRONIC LEARNING LABORATORY***

Study carrel headphones and touch tone panels will allow students to use a wide variety of learning programs for individualized instruction monitored by instructors.

## ***MEDIA INNOVATION LABORATORY***

Students and faculty will have open access to equipment for designing and producing educational resource material packages such as transparencies, slides, photographs, movies, sound recordings and videotapes.

## ***TELEVISION STUDIO***

A small, highly operational television studio producing educational television material will be tied into a closed-circuit television network throughout the campus. In addition to studio capability, video tape recorders will be available for classroom use with monitor receivers.



The Learning Resource Center arranges cultural and educational programs for the entire college community. The center is also a community resource. The center is open to all, and sponsors seminars, cultural programs, exhibits and workshops for and with community groups. The Learning Resource Center is totally involved in the dynamics of learning at the college.



## Drop - In Center

The Drop-In Center is a professionally trained and supervised volunteer-staffed peer counseling, information and referral service, staffed by students for students. Services cover all areas of personal relevance to students, including drugs and alcohol; parent/child and boyfriend/girlfriend problems; birth control; pregnancy (including adoption and abortion); selective service (the draft); human sexuality; legal aid; alternative vocations, and other areas. Community outreach and education — in classrooms, seminars, student publications — are another important service of the Drop-In Center to the college community.

# The College Center

The College Center is the base for all extra-curricular student life at Northern Essex. The cafeteria is open throughout the day and evening, and a small, formal dining room is available to the college community. A large lounge area and several smaller lounges and conversational areas are provided.

The Student Activities offices and offices for student clubs and publications are located in the Center. A large game room has ping-pong, pool, table shuffleboard and other equipment. The Center houses the Drop-in Center, a chess room, activity rooms and private counseling areas. Conference space for the Division of Continuing Education and Community Services is provided and the college bookstore is located in the building.

The College Center is designed with ramp facilities for handicapped persons. It is a vital factor in the learning experience offered at Northern Essex.

## The Alumni Association

The Alumni Association was formed by Northern Essex graduates to support, influence and aid the college's goals, especially in areas where state involvement is unavailable. The Alumni Association is committed to developing deeper, richer ties between the college and its community, through community understanding and appreciation of Northern Essex graduates.

The Alumni Association was first organized in the spring of 1970 and its constitution was ratified on August 1, 1972. Two hundred and fifty graduates now hold active membership in the association, which has an associate membership of 2,850.

In addition to business meetings, the association sponsors class reunion meetings, social activities and an annual homecoming. An Alumni Scholarship Fund has recently been founded. Future plans include an alumni building on campus.

The Alumni Association maintains a speaker's forum for community groups and organizations. A quarterly magazine is mailed to all members. For further information, contact the Director of Alumni Affairs at the college.

# Northern Essex Community College Foundation, Incorporated

The Northern Essex Community College Foundation, Incorporated is non-commercial, non-sectarian and non-partisan. The purpose of the Corporation is to further by all private and legitimate agencies and means the raising of funds to aid, and participate in the development and improvement of Northern Essex Community College.

The Corporation receives gifts, legacies and donations from any source. The Corporation seeks to extend the benefits of education offered by the college to all individuals, and makes gifts and appropriations from its resources to carry out its purposes and objectives.

The purposes of the Corporation are promoted through educational and research programs directed toward individuals, private and governmental organizations, and the community. The purposes of the Corporation are developed through conferences, studies, committees, projects and programs.

The Northern Essex Community College Foundation, Incorporated will devote its endeavors to meeting college needs, meeting student needs, meeting faculty needs, meeting community needs, and supporting the arts.







## The College Curricula

Northern Essex is a comprehensive community college which offers transfer-oriented programs, occupationally-oriented programs and developmental programs. Through its counseling and guidance services, Northern Essex assists the student in choosing a program of education best suited to his interests and abilities.

The plan for education at Northern Essex is based on the premise that people in the Merrimack Valley community have differing abilities, needs, desires and interests; that their educational needs vary as they continue through life; and that these educational needs must be met by varying kinds of programs.

Northern Essex includes a framework of general education courses in all associate degree programs. The college encourages students to explore more than one area of study and to change programs when they discover that their needs are not met by the program in which they are enrolled.

Within this broad framework are specific curricula with individual characteristics, requirements and emphases determined by the purpose for which they are intended.

The atmosphere of growth, challenge and innovation in Northern Essex's internal development is reflected in the attitudes of faculty, administration and student body. Dynamic progress and constant self-study are ideas shared by all members of the Northern Essex academic community.



# Transfer Programs

**Associate in Arts — Liberal Arts**

**Associate in Science — Engineering Science**

**Associate in Science — Business Transfer**

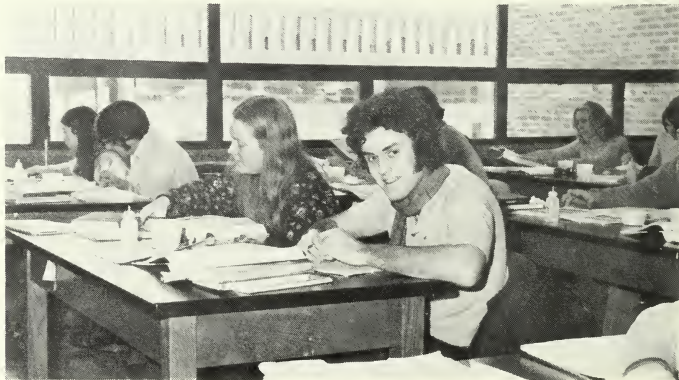
The transfer programs at Northern Essex give students planning to continue their education at senior institutions a fully transferable, comprehensive education equivalent to the first two years of a four-year college or university.

However, not all students have deep-seated interests when they enter college and these students use the first two years to test their aptitudes, abilities and preferences in different subjects before specializing.

The transfer programs give students the opportunity to explore a wide range of disciplines. Students in these programs do not place emphasis on marketing the knowledge they gain immediately. Students who wish to grow in general education, without transfer planning, find many interesting areas in the Liberal Arts program.

Students in these programs usually plan to continue their education beyond the associate degree level. The courses in these programs parallel in structure and aim the first two years of the curricula in most senior institutions. They are intended for transfer, and successful completion of these courses should provide a good basis for transfer with advanced standing to a senior institution.

Completion of these programs does not, however, guarantee successful transfer. The receiving institution makes the final decision on individual transfer applications. It is the student's responsibility to make sure that he has completed the requirements of the senior institution he plans to attend.



# Career Programs

## THE ASSOCIATE IN SCIENCE DEGREE

- Accounting
- \*Administrative Assistant
- \*Administrative Assistant: Education Option
- Business Management
- Executive Secretarial
- Executive Secretarial: Legal Option
- Executive Secretarial: Medical Option
- Executive Secretarial: Technical Option
- Executive Secretarial: Accounting Option
- \*Banking
- Food Services Management
- Electronic Technology
- Computer Technology
- Civil Technology
- Environmental Technology
- Human Services: Child Care
- Human Services: Mental Health Technology
- Human Services: Educational Assistant
- \*Law Enforcement
- Nursing
- \*Nursing: Evening Program
- Radiologic Technology
- Respiratory Therapy Technology
- Respiratory Therapy: Certificate Program
- Medical Record Technology
- Dietary Technology
- Nursing Home Administration

\*This program is offered in the Division of Continuing Education and Community Services only.

Career programs emphasize the immediate marketing of knowledge and skills developed in a program. Successful completion of a career program prepares the student for direct entry into jobs in public service, business and industry.

The basic structure of these programs concentrates on theoretical and technical courses in the skills necessary for a particular phase of employment. Students, however, also explore areas of cultural significance and develop intellectually as well as professionally through the election of liberal arts courses.

Career programs are not specifically designed for transfer to a senior institution; but they do not prohibit transfer. Many graduates of career programs at Northern Essex, who have had good quality point averages, have been accepted in baccalaureate curricula at senior institutions related to their career fields.

# The "O" Program

Students with good high school grades and high achievement test scores are almost automatically accepted for admission into college.

Other applicants present records which discourage acceptance. Often their academic confidence has been undermined by successive failures in high school which led them to a climate of "no-expectations". Sometimes these students were unable, because of health or personal problems, to achieve in high school. Some of them decided too late to prepare properly for college. And, often these students simply needed time to mature before settling down to productive study.

What happens to these slow starters? Has their chance for a college career perished? No-more-education is a tough fact of life for these students if they think attending college is a process which absolutely must lead directly from a high school classroom to full-time college matriculation.

There are other alternatives. The 'O' (for opportunity) Program at Northern Essex is one such alternative. This program is essentially a second chance for a student to show that he can work at the college level.

Students interested in the 'O' Program meet with the staff of the college's Admissions Office to discuss their interests and abilities — and their weaknesses. An educational plan is evolved. Courses designed to strengthen existing weaknesses will be assigned. Often a class in Pre-College Mathematics or Reading Strategies is indicated: and usually two courses are assigned.

Students may register for 'O' Program assigned courses in the Summer, Fall or Spring sessions in either the Day Division or the Division of Continuing Education and Community Services. Students who complete assigned courses with an average grade of C or higher will be admitted to Northern Essex as full-time students in a degree program.

Students who feel they need even more time before attempting full-time College work may continue their studies in the Division of Continuing Education and Community Services. Courses successfully completed in this division will be credited toward a degree program, wherever appropriate, when the student decides to matriculate.

All of the resources of the college — counseling, close contact with teachers trained to assist students, financial aid, developmental courses, student activities — are available to 'O' Program students.

Many students, who might not otherwise have qualified for acceptance into a college, have matriculated at Northern Essex after participating in the 'O' Program.

# The Discovery Program

Discovery is a one semester, college-level program now offered at Northern Essex Community College to people looking for new choices in life, a better way to learn, and a way out of an educational dead-end. Discovery students earn college credit and help design a successful learning plan suited to their needs.

Discovery students come from many backgrounds, different educational experiences and different age groups. Yet, they have important values in common:

- they want something better in life
- they want to feel productive
- they want to gain more confidence
- they want to extend their learning abilities
- they want new, exciting educational experiences

Discovery students have an interview at the office of admissions to discuss their basic needs and problems in education, and to consider possible ways in which Discovery can meet these needs. The usual entrance requirements of the college may be waived, and a high school diploma is not always necessary in Discovery. The student needs a willingness to get involved with the program and a willingness to take part in what is happening and how it happens. Discovery has funds to cover tuition or books or living expenses or all of these for students who qualify under federal income guidelines.

Discovery provides a developmental opportunity to students who are unsatisfactorily prepared for courses of study offered at the college. Curriculum concentrates on developmental reading, mathematics, science and the humanities. Development of interest and achievement in these varied areas is the central goal of the program. Material contained in the four program courses is integrated and interrelated and instruction methods are dictated by the requirements of the course.





# Curricula

## THE CURRICULUM PLAN

The plan for each program of studies designates certain courses which are specifically required in the program. The plan usually specifies other areas of study from which a specified number of courses must be selected by the student (business electives, liberal arts electives, social science electives, and others). In certain programs an opportunity is provided for the student to select a specified number of courses without restriction (electives). Each curriculum plan states the total number of credit hours which must be earned to attain a degree in that program.

## PROGRAM COURSE REQUIREMENTS

When a course, or courses, is listed as a requirement for a degree in a given curriculum, and the student wishes to obtain the degree without taking the course, or courses, the student may make a request for waiver to the Dean of Students. The Dean of Students shall consult with the appropriate division and department chairmen in formulating a decision. The Dean of Students may also refer such requests to the Board of Recourse and Review of the Student Academic Affairs Committee for an advisory opinion.

## COURSE PREREQUISITES

Certain courses are at a level of difficulty which requires from the student specific background preparation — or prerequisite courses — before he can perform successfully at the college level. Students will not be permitted to take any course without fulfilling the prerequisites required for that course except with the permission of the course instructor and the appropriate division chairman.

When a course is listed as a prerequisite for another course, and the student has not fulfilled that prerequisite, a request for waiver of the prerequisite may be made on a form provided by the Registrar to the instructor of the course and the chairman of the department offering the course.

## ELECTIVES

An elective is any course which is not required in a specific curriculum. Every program offered in the college includes electives. Students should elect courses which are relevant to their personal interests, to their program considered as a whole, to the requirements of colleges to which they may wish to transfer, and to their development as individuals with broad and varied cultural interests.

Assistance in choosing electives is available from the faculty and counseling staff. Students are urged to consult counselors or faculty to make certain their elective choices are acceptable to the particular program in which they are enrolled. Courses which will be offered as electives during a specific semester will be announced at registration for that semester.

### **SPECIAL TOPICS COURSES**

In order to provide for unique, highly individualized courses of study for a single student, or a relatively small number of students, each academic department in the college offers special topics courses designed to provide further study through directed readings, directed research projects, seminar or special class work in a specific topic in a discipline. Special topics courses are approved on a one-semester basis and may carry from one to four credit hours.

Students may initiate the planning of such courses with an individual faculty member, or select a special topics course already completed. Special topics courses must be approved by the chairman of the division in which the course is offered. Information on the procedures to be followed and approval forms are available in the Registrar's office. Outlines of the special topics courses already completed may be requested from the Registrar.



## THE ASSOCIATE IN ARTS DEGREE LIBERAL ARTS

The Liberal Arts Program is designed for students interested in a broad academic education rather than career programs. The program is intended for students who plan to continue education beyond the associate degree level by transferring to a four-year college or university and it is intended for students who have not yet decided on the educational objectives best suited to their interests and potential.

Minimum requirements in mathematics and natural sciences, social science, communications and the humanities are included in the program to present many phases of academic discipline to students. The widest possible elective choice enables the student to explore areas freely or concentrate in a field of particular interest. Liberal Arts students may also elect a number of courses in career programs. Students are urged to work with counselors or faculty advisors when planning their courses of study.

### REQUIREMENTS FOR GRADUATION

Courses	Credit
*1 Basic Communications	6
*2 Natural Science	6-8
Mathematics	6
*3 Humanities	6
*4 Social Science	6
Electives	<u>30-28</u>
Required for Graduation	<u>60</u>
*1 Basic communications courses are English Composition I and English Composition II.	
*2 The natural science requirement may be filled by laboratory, or non-laboratory, courses. Students who intend to transfer, should check the natural science requirements of the four-year institution they choose before selecting their courses.	
*3 Humanities courses include: foreign languages, communications, philosophy, art, music, literature and religion.	
*4 Social science courses include: anthropology, psychology and sociology, history, government, economics and geography.	

### ELECTIVES MAY BE CHOSEN FROM THE ENTIRE SLATE OF COURSES OFFERED IN THE COLLEGE WITH TWO RESTRICTIONS:

- A. Six credit hours **maximum** may be elected outside the Division of Liberal Arts.\*

Students who wish to elect more than the maximum credits allowed outside the Division of Liberal Arts must have permission in advance from the Dean of Students and the recommendation of the division or department chairman concerned.

- B. A **maximum** of three credit hours in physical education may be counted toward graduation. These three credits are counted **in addition to** the six credits listed in section A above.

### \*THE DIVISION OF LIBERAL ARTS

Department of Communications  
 Department of Foreign Languages  
 Department of History and Government  
 Department of Behavioral Sciences  
 Department of Philosophy and Fine Arts  
 Department of Mathematics and Natural Sciences

The Liberal Arts program allows the widest possible areas of elective choice to students. Students planning to transfer their associate degree programs to a four-year baccalaureate program, however, must make sure that the courses they select meet the transfer requirements of the four-year institution they plan to attend.

Since the transfer requirement of four-year schools vary greatly, it is most important that Liberal Arts students planning to transfer meet with counselors or faculty advisors at Northern Essex before selecting elective courses.

## THE ASSOCIATE IN SCIENCE DEGREE ENGINEERING SCIENCE

The Engineering Science Program is designed to prepare an engineering student for transfer to a four-year college or university. A core curriculum has been developed in cooperation with the American Association for Engineering Education and engineering divisions of several four-year institutions. The core curriculum allows the student an opportunity to explore various engineering fields equipping him to choose the field of specialization best suited to his interests and abilities. The fields of engineering include chemical, industrial, electrical, civil, mechanical engineering. A strong background in mathematics is required.

The following format is intended as a workable guide for students in course selections and program planning. The Engineering Science Program requires 68 credit hours of work.

### FIRST SEMESTER

### SECOND SEMESTER

Course	Credit	Course	Credit
English Composition I	3	English Composition II	3
Advanced Trigonometry & Analytic Geometry	4	Calculus I (MA5683)	4
**Elective	3 or 4	Engineering Physics I	4
Graphics	2	**Elective	3
Speech	3	**Elective	3
	<u>15 or 16</u>		<u>17</u>



### THIRD SEMESTER

Course	Credit
Calculus II (MA5684)	4
Engineering Physics II	4
Engineering Mechanics I (Statics)	3
*Technical Elective	4
**Elective	3
	<hr/> 18

### FOURTH SEMESTER

Course	Credit
*Technical Elective	4
*Technical Elective	3 or 4
Engineering Physics III	4
*Technical Elective	4
**Elective	3
	<hr/> 18 or 19

**\*FOLLOWING IS A LIST OF SUGGESTED TECHNICAL ELECTIVES FOR VARIOUS ENGINEERING BRANCHES. THE LIST IS NOT TO BE CONSIDERED COMPLETE:**

**Civil Engineering:** Economics I and II; Surveying I and II; Differential Equations; Scientific Programming; Chemistry I and II; Strength of Materials

**Electronic/Electrical Engineering:** Economics I and II; Differential Equations; Scientific Programming; Strength of Materials; Circuit Analysis I and II; Networks I and II; Engineering Mechanics II

**Mechanical Engineering:** Economics I and II; Engineering Mechanics II; Differential Equations; Scientific Programming; Circuit Analysis I and II; Networks I and II; Chemistry I and II; Strength of Materials

**Environmental Engineering:** Economics I and II; Scientific Programming; Introductory Biology; Microbiology; Chemistry I and II

**Chemical Engineering:** Introductory Chemistry I and II; General Chemistry I and II; Special Topics in Chemistry; Economics I and II; Scientific Programming

**\*\*STATEMENT ON ELECTIVES:** A minimum of nine semester hours of electives must be taken in humanities or the social sciences. During the first semester the student should contact the college to which he plans to transfer, and then select both technical and general electives to fulfill his transfer goals. Proposed technical electives from outside the above lists will be considered, but must be approved by the Chairman, Department of Engineering Science.

**PREREQUISITES FOR ADMISSION:** Two years of Algebra  
Geometry  
Trigonometry  
Physics of Chemistry

## THE ASSOCIATE IN SCIENCE DEGREE ELECTRONIC TECHNOLOGY

The Electronic Technology Program is designed primarily to equip students for employment (often as an engineering assistant) with immediately marketable skills in electronic technology. This curriculum concentrates on developing complex, interdependent electronic techniques. Heavy emphasis is put on use of state-of-the-art devices and laboratory equipment, and the preparing of complete, analytical laboratory reports. A film program and field trips are included in the program. Recently, bachelor of arts in technology programs have been developed nation-wide, and the student who plans to continue his education at a four-year institution should consider these new programs.

The following format is intended as a workable guide for students in course selections and program planning. The Electronic Technology Program requires 72 credit hours of work.

### FIRST SEMESTER

Course	Credit
English Composition I	3
Algebra and Trigonometry	4
Electronics I -	
Semi-Conductors	4
Circuit Analysis I	4
Introductory Electronics	<u>1</u>
	16

### SECOND SEMESTER

Course	Credit
English Composition II	3
Advanced Algebra and	
Trigonometry	4
Electronics II -	
Electronic Circuits I	5
Circuit Analysis II	4
Graphics	<u>2</u>
	18

### THIRD SEMESTER

Course	Credit
Advanced Technical Math I	4
Applied Physics I	4
Electronics III -	
Electronic Circuits II	5
Circuit Analysis III	4
*Elective	<u>3</u>
	20

### FOURTH SEMESTER

Course	Credit
Advanced Technical Math II	3
Applied Physics II	4
Electronics IV - Pulse	
and Digital	4
Electronics V -	
Measurements	4
Elective	<u>3</u>
	18

\*Electives must be selected from courses offered in the Division of Liberal Arts

### PREREQUISITE

**FOR ADMISSION:** Two years of Algebra

## THE ASSOCIATE IN SCIENCE DEGREE COMPUTER TECHNOLOGY

The Computer Technology Program is designed primarily to prepare the student for employment opportunities with immediately marketable skills in Data Processing. Our graduates have entered varied areas of Computer Technology including system analysis training programs, programming, and data processing management. The curriculum is based almost entirely on various skill techniques, which are interdependent in their development, and which are based on a strong background in mathematics, accounting, and communications. The course includes field trips to computer installations, and the college's computer facilities are used extensively for work shops. There is good transfer potential in the program, and students planning to continue their education beyond the associate degree level should select electives to fulfill the requirement for transfer of the four-year institution they choose.

The following format is intended as a workable guide for students in course selections and program planning. The Computer Technology Program requires 66 credit hours of work.

### FIRST SEMESTER

Course	Credit
English Composition I	3
Finite Mathematical Models I	3
Introductory Accounting I	3
Fundamentals of Digital Logic	3
Business Programming I	<u>4</u>
	16

### SECOND SEMESTER

Course	Credit
English Composition II	3
Finite Mathematical Models II	3
Introductory Accounting II	3
Speech	3
Scientific Programming I	<u>4</u>
	16

### THIRD SEMESTER

Course	Credit
Introduction to Statistics	3
Elective	3
Elective	3
Assembly Programming	4
Elective (Liberal Arts)	<u>3</u>
	16

### FOURTH SEMESTER

Course	Credit
Elective	3
Business Programming II	4
Systems Development & Design	4
Advanced Programming	4
Elective (Liberal Arts)	<u>3</u>
	18

### PREREQUISITE

FOR ADMISSION: Two years of Algebra

## THE ASSOCIATE IN SCIENCE DEGREE CIVIL TECHNOLOGY

The Civil Technology Program provides students with theoretical and practical knowledge and experience which trains them as qualified technicians in the surveying, layout, plans and specifications, designs and supervisory areas of the growing construction field. Broad construction site experiences are part of the curriculum. The theory presented also prepares students interested in education beyond the associate degree level.

The following format is intended as a workable guide for students in course selections and program planning. The Civil Technology Program requires 67 credit hours of work.

### FIRST SEMESTER

Course	Credit
English Composition I	3
Algebra & Trigonometry	4
Graphics	2
Drawing for Civil Technology	1
Surveying I	<u>4</u>
	14

### SECOND SEMESTER

Course	Credit
English Composition II	3
Advanced Algebra & Trigonometry	4
Mechanics for Civil Technology	3
Surveying II	3
Computer Applications to Civil Technology Problems	<u>4</u>
	18

### THIRD SEMESTER

Course	Credit
Advanced Technical Math I	4
Highway Engineering	3
Strength of Materials	4
Sanitary Engineering	3
*Elective	<u>3</u>
	17

### FOURTH SEMESTER

Course	Credit
Advanced Surveying	4
Soil Mechanics	4
Applied Physics II	4
Structural Analysis and Design	3
*Elective	<u>3</u>
	18

\*Electives must be selected from courses offered in the Division of Liberal Arts

**PREREQUISITES FOR ADMISSION:** Two years of Algebra, Geometry and Trigonometry helpful, but not required.



## THE ASSOCIATE in SCIENCE DEGREE ENVIRONMENTAL TECHNOLOGY

The Environmental Technology Program aims at developing technologists capable of working in any of the major pollution areas, namely: air, water and solid waste disposal. The program is designed to provide a broad-based foundation in the chemical and biological sciences as they apply to the problems involved with processing waste and re-cycling its by-products. This foundation will be supplemented by courses keyed to specific engineering applications.

The following format is intended as a workable guide for students in course selections and program planning. The Environmental Technology program requires 69 credit hours of work.

### FIRST SEMESTER

Course	Credit
English Composition I	3
Algebra and Trigonometry	4
Environmental Sanitation	4
Graphics	2
Environmental Laboratory Methods	2
Basic Scientific Computation	<u>1</u>
	16

### SECOND SEMESTER

Course	Credit
English Composition II	3
Advanced Algebra and Trigonometry	4
Environmental Biology I	4
Atmosphere Sampling and Analysis	4
Land Usage	<u>3</u>
	18

### THIRD SEMESTER

Course	Credit
Environmental Biology II	4
Sanitary Chemistry I	4
Air Resource Management	3
*Technical Elective	4
Speech	<u>3</u>
	18

### FOURTH SEMESTER

Course	Credit
Sanitary Chemistry II	4
Solid Waste Management	4
Codes, Contracts & Specifications	3
Technical Writing	3
Non-technical Elective	<u>3</u>
	17

\*Suggested Technical Electives: Sanitary Engineering  
Scientific Programming  
Physical Science I  
Surveying I

Other technical electives are available upon written approval of the chairman of the Division of Engineering and Technical Studies.

### PREREQUISITE

FOR ADMISSION: Two years of Algebra

## THE ASSOCIATE IN SCIENCE DEGREE ACCOUNTING

The Accounting Program provides two semesters of selected liberal arts courses to develop general understanding and knowledge. The basic core of business courses introduces the student to the broad variety of areas within the field and prepares him to select that particular phase of specialization which best suits his needs, abilities and interests. The Accounting specialization is designed to prepare graduates to enter business, industry and government, in the specialized accounting field.

The following format is intended as a workable guide for students in course selections and program planning. The Accounting Program requires 60 credit hours of work.

### FIRST SEMESTER

Course	Credit
English Composition I	3
Introductory Accounting I	3
*Mathematics of Finance	3
Principles of Marketing	3
Principles of Sociology	
or	3
Introduction to Psychology	
	<u>15</u>

### SECOND SEMESTER

Course	Credit
English Composition II	3
Introductory Accounting II	3
*Business Statistics	3
Speech	3
Introduction to Psychology	
or	3
Principles of Sociology	
	<u>15</u>

\*A liberal arts mathematics course should be elected, in place of mathematics of finance and business statistics, by qualified students.

### THIRD SEMESTER

Course	Credit
Business Finance	3
Business Law I	3
Intermediate Accounting I	3
Cost Accounting	3
*Man & His Environment	
	<u>3</u>
	<u>15</u>

### FOURTH SEMESTER

Course	Credit
Survey of Economics	3
Personnel Management	3
Intermediate Accounting II	3
Tax Accounting	3
Elective	<u>3</u>
	<u>15</u>

\*Another science course may be elected in place of this requirement.

## THE ASSOCIATE IN SCIENCE DEGREE BUSINESS MANAGEMENT

The Business Management Program provides two semesters of selected Liberal Arts courses to develop general knowledge and understanding. The basic core of business courses introduces the student to the broad variety of areas within the field and prepares him to select the particular area of specialization best suited to his needs, abilities and interests. The Business Management specialization qualifies graduates to enter business and industry, in any of several areas. Careful choice of electives builds a background in a particular business area: marketing, insurance, real estate, or industrial management.

The following format is intended as a workable guide for students in course selections and program planning. The Business Management Program requires 60 credit hours of work.

FIRST SEMESTER		SECOND SEMESTER	
Course	Credit	Course	Credit
English Composition I	3	English Composition II	3
Introductory Accounting I	3	Introductory Accounting II	3
*Mathematics of Finance	3	*Business Statistics	3
Principles of Marketing	3	Speech	3
Principles of Sociology		Introduction to Psychology	
or	3	or	3
Introduction to Psychology		Principles of Sociology	
	<u>15</u>		<u>15</u>

\*A Liberal Arts mathematics course should be elected, in place of mathematics of finance and business statistics, by qualified students.

THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Business Finance	3	Survey of Economics	3
Business Law I	3	Personnel Management	3
Business Elective	3	Business Elective	3
Business Elective	3	Business Elective	3
Elective	<u>3</u>	*Man and His Environment	<u>3</u>
	<u>15</u>		<u>15</u>

\*Another science course may be elected to replace this requirement.

<b>THE BUSINESS ELECTIVES:</b>	Retailing	Industrial Management
	Advertising	Managerial Accounting
	Salesmanship	Time and Motion Study
	Tax Accounting	Principles of Insurance
	Cost Accounting	Credits and Collections
	Business Law II	Principles of Real Estate
	Introduction to Data Processing	

## THE ASSOCIATE IN SCIENCE DEGREE BUSINESS TRANSFER

The Business Transfer Program provides two semesters of liberal arts study, selected to develop general knowledge and understanding. A basic core of business courses introduces the student to the broad variety of areas within the field, and prepares him to select the particular area of specialization best suited to his needs, abilities and interests. The business transfer specialization is designed for students planning to transfer to a four-year institution after completing the associate degree program. To enroll in this program students must demonstrate academic ability in core courses, be recommended by the Department of Business chairman and be approved by the Dean of Students.

The following format is intended as a workable guide for students in course selections and program planning. The Business Transfer Program requires 62 credit hours of work.

### FIRST SEMESTER

Course	Credit
English Composition I	3
Introductory Accounting I	3
*Mathematics of Finance	3
Principles of Marketing	3
Principles of Sociology	
or	3
Introduction to Psychology	
	<u>15</u>

### SECOND SEMESTER

Course	Credit
English Composition II	3
Introductory Accounting II	3
*Business Statistics	3
Speech	3
Introduction to Psychology	
or	3
Principles of Sociology	
	<u>15</u>

\*A liberal arts mathematics course should be elected, in place of Mathematics of Finance and Business Statistics, by qualified students.

### THIRD SEMESTER

Course	Credit
Principles of Economics I	3
Natural Science	4
*Elective	3
*Elective	3
*Elective	3
	<u>16</u>

### FOURTH SEMESTER

Course	Credit
Principles of Economics II	3
Natural Science	4
*Elective	3
*Elective	3
*Elective	3
	<u>16</u>

\*Elective should be chosen to meet the transfer requirement of the particular four-year college the student plans to attend.



## THE ASSOCIATE IN SCIENCE DEGREE BANKING

The Banking Program has been developed by the college in conjunction with the educational committee of the Merrimack Valley Chapter, American Institute of Banking. This program is designed primarily for those presently employed in banking. The courses parallel those offered by the American Institute of Banking and students are able to work towards American Institute of Banking Certification as they complete associate degree requirements. The program provides the students with a broad academic background, the fundamentals of banking management and business management skills. THE BANKING PROGRAM IS OFFERED THROUGH THE DIVISION OF CONTINUING EDUCATION AND COMMUNITY SERVICES ONLY.

The following format is intended as a workable guide for students in course selections and program planning. The Banking Program requires 60 credit hours of work.

### FIRST SEMESTER

Course	Credit
English Composition I	3
Introductory Accounting I	3
Mathematics of Finance	3
Survey of Economics	3
Principles of Bank Operations	
or	3
Savings & Time Deposit Banking	
	<u>15</u>

### SECOND SEMESTER

Course	Credit
English Composition II	3
Introduction to Psychology	
or	3
Principles of Sociology	
Speech	3
Money and Banking	3
Introductory Accounting II	3
	<u>15</u>

### THIRD SEMESTER

Course	Credit
Business Law I	3
Elective (Liberal Arts)	3
Personnel Management	3
*Banking Elective	3
*Banking Elective	3
	<u>15</u>

### FOURTH SEMESTER

Course	Credit
Business Law II	3
Elective (Liberal Arts)	3
Elective	3
Bank Management	3
**Banking Elective	3
	<u>15</u>

#### \*THIRD SEMESTER BANKING ELECTIVES:

Installment Credit  
Home Mortgage Lending  
Credit Administration  
Trust Department Services

#### \*\*FOURTH SEMESTER BANKING ELECTIVES:

Bank Letters and Reports  
Fundamentals of Bank Data Processing  
Analyzing Financial Statements  
Bank Public Relations and Marketing  
Any third semester banking elective not previously chosen may be selected.

This program is available in the Division of Continuing Education and Community Services only.

## THE ASSOCIATE IN SCIENCE DEGREE FOOD SERVICE MANAGEMENT

The Food Service Management Program provides a broad academic background and business management education as well as practical and related instruction and experience in all phases of food service operation and management. Graduates will be qualified for entry management positions in the industry.

THE FOOD SERVICE MANAGEMENT PROGRAM IS OFFERED JOINTLY BY NORTHERN ESSEX COMMUNITY COLLEGE AND THE GREATER LAWRENCE REGIONAL TECHNICAL INSTITUTE. ALL CLASSROOM COURSES ARE HELD ON THE COLLEGE CAMPUS. LABORATORY COURSES AND THE CLINICAL EXPERIENCE ARE LOCATED AT THE TECHNICAL INSTITUTE.

The following format is intended as a workable guide for students in course selections and program planning. The Food Service Management Program requires 65 credit hours of work.

FIRST SEMESTER		SECOND SEMESTER	
Course	Credit	Course	Credit
English Composition I	3	English Composition II	3
Introductory Accounting I	3	Introductory Accounting II	3
Mathematics of Finance	3	Principles of Marketing	3
*Introduction to the Food		Food Service Operations I	4
Service Industry	4	**Elective	3
**Elective	3		16
	16		

### SUMMER SESSION

An eight-week summer work experience within the food service industry is required. As an alternative, other time periods within the college year may qualify. Acceptable completion of a report on work experience is an essential aspect in meeting this requirement. The program coordinator shall determine compliance with this requirement. In no event shall work experience prior to student enrollment in the program satisfy this requirement.

THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Business Law I	3	Survey of Economics	3
Elective (Science)	4	Personnel Management	3
Food Service Management I	3	Food Service Management II	3
Elective (Liberal Arts)	3	Elective (Liberal Arts)	3
Food Service Operations II	4	Food Service Operations III	4
	17		16

### PREREQUISITE

**FOR ADMISSION:** Interview with program coordinator.

\*Students whom the program coordinator has determined to have a basic knowledge of the food service industry must elect another course which carries at least three credit hours.

\*\*Recommended electives: Speech, Introduction to Psychology, Principles of Sociology, Cultural Anthropology.

## THE ASSOCIATE IN SCIENCE DEGREE EXECUTIVE SECRETARIAL

The purpose of the Executive Secretarial Program is to train students to assume high-level secretarial positions on the administrative and executive levels. The two-year curriculum offers a balanced program of academic and technical courses leading to specialization in the executive secretarial area. The college-educated secretary finds a wide variety of opportunities in every business and in every profession.

The following format is intended as a workable guide for students in course selections and program planning. The Executive Secretarial Program requires 61-62 credit hours of work.

FIRST SEMESTER		SECOND SEMESTER	
Course	Credit	Course	Credit
English composition I	3	English Composition II	3
Mathematics of Business	3	Elements of Accounting I	3
*Shorthand I, II or III	3	Shorthand II, III or IV	3
*Typewriting I, II or III	3	Typewriting II, III or IV	3
Elective (Liberal Arts)	3	Introduction to Psychology	3
	<u>15</u>		<u>15</u>
THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Shorthand III, IV or V	3	Shorthand IV or V or Secretarial	
Secretarial Procedures I	3	Science Elective	3
Typewriting III or		Business Law I	3
Elective	3	Speech	3
Elective (Science)	3-4	Elective (Liberal Arts)	3
Elective	3	Elective	
Office Machines	1	(Secretarial Science)	3
	<u>16-17</u>		<u>15</u>

## EXECUTIVE SECRETARIAL TRANSFER STATEMENT

Students interested in transferring to a senior college baccalaureate program in business teacher education, secretarial science, or office administration should modify the Executive Secretarial Program as follows (the third semester science course and the fourth semester liberal arts elective should be transferable courses):

FIRST SEMESTER		SECOND SEMESTER	
Course	Credit	Course	Credit
English Composition I	3	English Composition II	3
Mathematics of Business	3	Shorthand II or III	3
*Shorthand I or II	3	Typewriting II, III or IV	3
*Typewriting I, II or III	3	Introduction to Psychology	3
Western Civilization I	3	Western Civilization II	3
	<u>15</u>		<u>15</u>
THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Shorthand III or IV	3	Shorthand IV or V	3
Secretarial Procedures I	3	Secretarial Procedures II or	
Typewriting III or Elective	3	Office Administration	3
Elective (Science)	3-4	Introductory Accounting II	3
Introductory Accounting I	3	Speech	3
Office Machines	1	Elective (Liberal Arts)	3
	<u>16-17</u>		<u>15</u>

\*Entering freshmen should choose appropriate course after consultation with counselor or departmental advisor.

## THE ASSOCIATE IN SCIENCE DEGREE EXECUTIVE SECRETARIAL: LEGAL OPTION

The Executive Secretarial Program with Legal Option provides the opportunity for students to achieve not only superior secretarial skills to assume high-level, executive secretarial positions, but gives preparation for responsible positions in the legal field. The background necessary for a legal secretary is provided by courses in Business Law as well as courses in Legal Terminology and Law Office duties.

The following format is intended as a workable guide for students in course selections and program planning. The Executive Secretarial: Legal Program requires 61 credit hours of work.

FIRST SEMESTER		SECOND SEMESTER	
Course	Credit	Course	Credit
English Composition I	3	English Composition II	3
Mathematics of Business	3	Elements of Accounting I	3
*Shorthand I, II or III	3	Shorthand II, III or IV	3
*Typewriting I, II or III	3	Typewriting II, III or IV	3
Introduction to Psychology	3	Elective (Liberal Arts)	3
	<u>15</u>		<u>15</u>
THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Shorthand III, IV or V	3	Legal Dictation and	
Business Law I	3	Transcription	3
Legal Stenography	3	Business Law II	3
Secretarial Procedures I	3	Speech	3
Typewriting III or		Elective (Science)	3-4
Elective	3	Elective (Liberal Arts)	3
Office Machines	1		<u>15-16</u>
	<u>16</u>		

## THE ASSOCIATE IN SCIENCE DEGREE: EXECUTIVE SECRETARIAL: MEDICAL OPTION

The Executive Secretarial Program with Medical Option provides an intensive program of academic and secretarial science courses combined with preparation for employment in medical offices and other business, directly related to the practice of medicine. The course material emphasizes medical terminology, medical transcription and office procedures as well as secretarial skills in stenography.

The following format is intended as a workable guide for students in course selections and program planning. The Executive Secretarial: Medical Program requires a total of 61 credit hours of work.

FIRST SEMESTER		SECOND SEMESTER	
Course	Credit	Course	Credit
English Composition I	3	English Composition II	3
Mathematics of Business	3	Elements of Accounting I	3
*Shorthand I, II or III	3	Shorthand II, III or IV	3
*Typewriting I, II or III	3	Typewriting II, III or IV	3
Introduction to Psychology	3	Elective (Liberal Arts)	3
	<u>15</u>		<u>15</u>

\*Entering Freshmen should choose appropriate course after consultation with counselor or departmental advisor.



THIRD SEMESTER	
Course	Credit
Shorthand III, IV or V	3
Secretarial Procedures I	3
Office Machines	1
Typewriting III or Secretarial	
Science Elective	3
Medical Terminology	3
Elective (Science)	3-4
	<u>16-17</u>

FOURTH SEMESTER	
Course	Credit
Shorthand IV or Secretarial	
Science Elective	3
Medical Secretarial	
Procedures	3
Medical Dictation and	
Transcription	3
Speech	3
Elective (Liberal Arts)	3
	<u>15</u>

## THE ASSOCIATE IN SCIENCE DEGREE EXECUTIVE SECRETARIAL: ACCOUNTING OPTION

The Executive Secretarial Program with Accounting Option offers an intensive preparation in the field of applied accounting as well as secretarial skills. Business offices such as insurance firms, banks, real estate offices and mercantile establishments employ secretaries with accounting background and skills. Promotional opportunities to executive and managerial positions are especially prevalent for graduates with a strong combination of secretarial and accounting skills.

The following format is intended as a workable guide for students in course selections and program planning. The Executive Secretarial: Accounting Program requires 61 credit hours of work.

FIRST SEMESTER	
Course	Credit
English Composition I	3
Mathematics of Business	3
*Shorthand I, II or III	3
*Typewriting I, II or III	3
Elective (Liberal Arts)	3
	<u>15</u>

SECOND SEMESTER	
Course	Credit
English Composition II	3
Elements of Accounting I	3
Shorthand II, III or IV	3
Typewriting II, III or IV	3
Introduction to Psychology	3
	<u>15</u>

THIRD SEMESTER	
Course	Credit
Shorthand III, IV or V	3
Secretarial Procedures I	3
Typewriting III or Group	
Elective	3
Elements of Accounting II	3
Science (Natural)	3-4
Office Machines	1
	<u>16-17</u>

FOURTH SEMESTER	
Course	Credit
Shorthand IV, V or Secretarial	
Science Elective	3
Elements of Accounting III	3
Speech	3
Elective (Liberal Arts)	3
** Elective (Group A)	3
	<u>15</u>

\*Entering Freshmen should choose appropriate course after consultation with counselor or departmental advisor.

**\*\*GROUP A  
ELECTIVES:** Business Law I  
Secretarial Procedures II  
Machine Transcription  
Cost Accounting  
Tax Accounting

Personnel Management  
Principles of Insurance  
Principles of Real Estate  
Secretarial Field Experience

## THE ASSOCIATE IN SCIENCE DEGREE: EXECUTIVE SECRETARIAL: TECHNICAL OPTION

The Executive Secretarial Program with Technical Option is designed for students who wish to prepare for high-level positions in the secretarial field. In addition, this option enables the student to acquire the knowledge and skills needed for employment in technical offices relating to the fields of science and engineering.

The following format is intended as a workable guide for students in course selections and program planning. The Executive Secretarial: Technical Program requires 61 credit hours of work.

### FIRST SEMESTER

Course	Credit
English Composition I	3
Mathematics of Business	3
*Shorthand I, II or III	3
*Typewriting I, II or III	3
Introduction to Psychology	3
	<u>15</u>

### SECOND SEMESTER

Course	Credit
English Composition II	3
Shorthand II, III or IV	3
Typewriting II, III or IV	3
Elements of Accounting I	3
Elective (Liberal Arts)	3
	<u>15</u>

### THIRD SEMESTER

Course	Credit
Shorthand III, IV or V	3
Technical Stenography	3
Secretarial Procedures I	3
Office Machines	1
Typewriting III or Elective	3
Elective (Science)	3-4
	<u>16-17</u>

### FOURTH SEMESTER

Course	Credit
Technical Dictation and Transcription	3
Technical Typewriting	3
Speech	3
Elective (Liberal Arts)	3
Elective (Secretarial)	3
	<u>15</u>

\*Entering Freshmen should choose appropriate course after consultation with counselor or departmental advisor.



## THE ASSOCIATE IN SCIENCE DEGREE ADMINISTRATIVE ASSISTANT

The Administrative Assistant Program is designed to prepare students for responsible sub-professional careers in the office and business fields. The work of the office administrative assistant provides support and assistance in fields such as general and personnel administration, finances, law, insurance, banking, government and other areas of the professional and business world. THE ADMINISTRATIVE ASSISTANT PROGRAM IS OFFERED THROUGH THE DIVISION OF CONTINUING EDUCATION AND COMMUNITY SERVICES.

The following format is intended as a workable guide for students in course selection and program planning. The Administrative Assistant Program requires 60 credit hours of work.

### FIRST SEMESTER

Course	Credit
English Composition I	3
Elements of Accounting	
or	3
Introductory Accounting	
Typewriting I or	
Business Elective	3
* Elective (Business)	3
Social Science	<u>3</u>
	15

### SECOND SEMESTER

Course	Credit
English Composition II	3
Personnel Management	3
Typewriting II or	
* Business Elective	3
Introduction to Psychology	3
Elective (Liberal Arts)	<u>3</u>
	15

### THIRD SEMESTER

Course	Credit
Secretarial Procedures I	3
Typewriting III	3
Introduction to Data	
Processing	3
* Elective (Business)	3
Elective (Liberal Arts)	<u>3</u>
	15

### FOURTH SEMESTER

Course	Credit
Office Administration	3
Business Law I	3
Science	3
* Elective (Business)	3
Elective	<u>3</u>
	15

#### \* SELECT BUSINESS ELECTIVES FROM THE FOLLOWING LIST:

Advertising	Office Machines
Credits and Collections	Principles of Insurance
Elements of Accounting II	Principles of Real Estate
Introductory Accounting II	Secretarial Field Study
Introduction to Word Processing	Shorthand I, II or III
Machine Transcription	Survey of Economics
Principles of Marketing	

## THE ASSOCIATE IN SCIENCE DEGREE

### ADMINISTRATIVE ASSISTANT: EDUCATION OPTION

The Administrative Assistant with Education Option Program is designed for students who wish to prepare themselves for responsible office careers in educational organizations such as schools, colleges, universities, or the offices of the Department of Education. A balance and diversity of educational experiences is presented in the area of the liberal arts, educational office management and business skills which will appeal to those planning office careers in educational organizations. THE ADMINISTRATIVE ASSISTANT WITH EDUCATIONAL OPTION PROGRAM IS OFFERED THROUGH THE DIVISION OF CONTINUING EDUCATION AND COMMUNITY SERVICES.

The following format is intended as a workable guide for students in course selection and program planning. The Administrative Assistant with Educational Option Program requires 60 credit hours of work.

#### FIRST SEMESTER

Course	Credit
English Composition I	3
Elements of Accounting	
or	3
Introductory Accounting I	
Typewriting I or	
Business Elective	3
* Elective (Group A)	3
Social Science	3
	<u>15</u>

#### SECOND SEMESTER

Course	Credit
English Composition II	3
School Budgeting and	
Records Management	3
Typewriting II or	
*** Business Elective	3
Personnel Management	3
Introduction to Psychology	3
	<u>15</u>

#### THIRD SEMESTER

Course	Credit
Secretarial Procedures I	3
Typewriting III	3
School Law	3
Introduction to Data	
Processing	3
** Elective (Group B)	3
	<u>15</u>

#### FOURTH SEMESTER

Course	Credit
Office Administration	3
Business Law I	3
Science	3
*** Elective (Business)	3
Elective (Liberal Arts)	3
	<u>15</u>

#### \*SELECT GROUP A ELECTIVE FROM THE FOLLOWING LIST:

Creative Use and Production of	Introduction to Library Services
Audio-Visual Media	School Administration

#### \*\*SELECT GROUP B ELECTIVE FROM THE FOLLOWING LIST:

Adolescent Psychology	Child Psychology
Educational Psychology	

#### \*\*SELECT BUSINESS ELECTIVES FROM THE FOLLOWING LIST:

Elements of Accounting II	Mathematics of Business
Introductory Accounting II	Office Machines
Introduction to Word Processing	Secretarial Field Experience
Machine Transcription	Shorthand I, II or III
Survey of Economics	



## THE ASSOCIATE IN SCIENCE DEGREE HUMAN SERVICES: CHILD CARE

The Child Care Program instructs students in the principles and theory of child development and in the principles, theory and practices of early childhood education, to train them as teaching and child care assistants for pre-school children interacting in a group situation. The curriculum design includes an integrated practical experience component which allows students to apply at once new skills and knowledge in real situations.

The following format is intended as a workable guide for students in course selections and program planning. The Child Care Program requires 67 credit hours of work.

FIRST SEMESTER		SECOND SEMESTER	
Course	Credit	Course	Credit
English Composition I	3	English Composition II	3
Introduction to Psychology	3	Child Psychology	3
Human Biology	3	Man and His Environment	3
Introduction to Early Childhood Education	3	Problems in Early Childhood Education	3
Introduction to Creative Experience	3	Children's Literature	3
Observation & Recording of Child Behavior	1	Child Care Practicum I	2
	<u>16</u>		<u>17</u>
THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Principles of Sociology	3	Seminar in Philosophy of Child Care	3
Speech	3	Developmental Pre-School Mathematics	3
Educational Psychology	3	Child Care Practicum III	5
Child Care Practicum II	3	First Aid and Safety	3
Physical Education & Recreation Activities	1	Elective	3
Audio-Visual Media Workshop (Lab)	1		<u>17</u>
Elective	3		
	<u>17</u>		

## THE ASSOCIATE IN SCIENCE DEGREE: HUMAN SERVICES: MENTAL HEALTH TECHNOLOGY

The Mental Health Technology Program instructs students in the theory and skills needed to recognize mental health problems in individuals, in groups and in the community; to understand the structure of mental health facilities; to understand current modalities of treatment in mental health; and to assist with physical rehabilitative therapies. Carefully supervised clinical experiences are part of the program and prepare students for middle-level professional positions in various types of mental health facilities.

The following format is intended as a workable guide for students in course selections and program planning. The Mental Health Technology Program requires 62 credit hours of work.

**FIRST SEMESTER**

Course	Credit
English Composition I	3
Introduction to Psychology	3
Introduction to Mental Health	3
Human Biology	3
Principles of Sociology	3
Observation and Recording of Mental Health Programs	<u>1</u>
	16

**SECOND SEMESTER**

Course	Credit
English Composition II	3
Human Growth & Development	3
Man and His Environment	3
Modalities of Treatment	3
Mental Health Practicum I	<u>3</u>
	15

**THIRD SEMESTER**

Course	Credit
Abnormal Psychology	3
Mental Health Practicum II	3
Physical Education & Recreation Activities	1
Elective	3
Elective	3
Group Dynamics	<u>3</u>
	16

**FOURTH SEMESTER**

Course	Credit
Seminar in Mental Health	3
Mental Health Practicum III	3
Introduction to Creative Experience	3
First Aid and Safety	3
Elective	<u>3</u>
	15

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**THE ASSOCIATE IN SCIENCE DEGREE  
HUMAN SERVICES: EDUCATIONAL ASSISTANT**

The Educational Assistant Program provides training in basic principles of the group and individual learning process, the basic problems in learning, and the development of effective interpersonal relationships with the educational staff and the students. Close relationships with schools in the area have been developed, to give students progressively more involved classroom experiences in the roles of the Educational Assistant and to develop skills in assisting the teacher in a wide variety of classroom and supportive educational activities.

The following format is intended as a workable guide for students in course selections and program planning. The Educational Assistant Program requires 63-65 credit hours of work.

**FIRST SEMESTER**

Course	Credit
English Composition I	3
Human Growth and Development	3
Observation of Classroom Dynamics	1
*Science Requirement	3-4
Introduction to Role of Educational Assistant	3
Audio-Visual Media Workshop (Lab)	<u>1</u>
	14-15

**SECOND SEMESTER**

Course	Credit
English Composition II	3
*Science Requirement	3-4
Classroom Experience I	3
Physical Education & Recreation Activities	1
Teaching Reading in Elementary Grades	3
Introduction to Creative Experience	<u>3</u>
	16-17

\*Students should choose a science requirement from: Botany, Zoology, Meteorology, Physical Geology, Human Biology, Man and His Environment, General Chemistry I and II

**THIRD SEMESTER****FOURTH SEMESTER**

Course	Credit	Course	Credit
Children's Literature	3	Education Seminar	3
Classroom Experience II	3	Methods of Teaching	
Educational Psychology	3	English as a Second	
Elective	3	Language	3
Contemporary Mathematics for		Classroom Experience III	3
Elementary Teachers	3	Elective	3
	<u>15</u>	**Typewriting I	3
		First Aid and Safety	3
			<u>18</u>

**INTERSESSION**

+Intensive Classroom Experience (Optional)      3 credits

\*\*Or Equivalent Experience

+This course may be taken, with permission of the program coordinator, in lieu of ED2212 or ED2255.

## **THE ASSOCIATE IN SCIENCE DEGREE LAW ENFORCEMENT**

The Law Enforcement Program provides specialized training to police personnel and others interested in preparing for careers in municipal, state, federal private law enforcement and investigation work. The curriculum reflects the values, goals and problems of the total criminal justice system with emphasis on the technical and the educational aspects rather than training aspects. Students, upon successful completion of the program, may transfer to a four-year institution offering a baccalaureate degree in Law Enforcement. ALL LAW ENFORCEMENT COURSES IN THIS PROGRAM ARE OFFERED THROUGH THE DIVISION OF CONTINUING EDUCATION AND COMMUNITY SERVICES.

The following format is intended as a workable guide for students in course selections and program planning. The Law Enforcement Program requires 60 credit hours of work.

**FIRST SEMESTER**

Course	Credit
English Composition I	3
Introduction to Psychology	
or	3
Principles of Sociology	
Criminal Law	3
Introduction to Criminal	
Justice	3
State and Local	
Government	3
	<u>15</u>

**SECOND SEMESTER**

Course	Credit
English Composition II	3
Principles of Sociology	
or	3
Introduction to Psychology	
Law Enforcement Planning	
and Management	3
Introduction to	
Criminology	3
*Elective	3
	<u>15</u>

\*Students planning to transfer to colleges offering the baccalaureate degree in Law Enforcement are advised to consult the course requirements of the colleges in which they are interested when selecting electives.

**THIRD SEMESTER****FOURTH SEMESTER**

Course	Credit	Course	Credits
Speech	3	Man and His Environment	3
+Mathematics Elective	3	Civil Rights & Liberties	
Police Operations	3	or	3
Criminal Investigation	3	Federal Government	
*Elective	<u>3</u>	Criminal Procedures	3
	15	Introduction to	
		Criminalistics	3
		*Elective	<u>3</u>
			15

**THE ASSOCIATE IN SCIENCE DEGREE  
NURSING**

The Nursing Program is designed to provide sound training in nursing theory and nursing skills. Clinical instruction and experience in affiliated hospitals follow the highest state and national standards for excellence. Liberal arts courses are included to develop the student's best potential. Graduates are prepared to write the Massachusetts State Licensing Examinations for qualification as registered nurses. Satisfactory performance must be required in all nursing and laboratory courses. The Nursing Program is nationally accredited by the National League for Nursing.

The following format is intended as a workable guide for students in course selections and program planning. The Nursing Program requires 70 credit hours.

**FIRST SEMESTER**

Course	Credit
Nursing I	8
Anatomy and Physiology I	4
English Composition I	3
Introduction to Psychology	<u>3</u>
	18

**SECOND SEMESTER**

Course	Credit
Nursing II	8
Anatomy and Physiology II	4
English Composition II	3
Marriage and the Family	<u>3</u>
	18

**THIRD SEMESTER**

Course	Credit
Mental & Physical Illnesses I	8
Principles of Sociology	3
Microbiology	4
Speech	<u>3</u>
	18

**FOURTH SEMESTER**

Course	Credit
Mental & Physical Illnesses II	10
Seminar on Nursing	3
**Elective (Social Science)	<u>3</u>
	16

\*Students planning to transfer to colleges offering the baccalaureate degree in Law Enforcement are advised to consult the course requirements of the colleges in which they are interested when selecting electives.

+A list of mathematics elective is available at the Office of Continuing Education.

\*\*One of the following: Child Psychology      Abnormal Psychology  
Social Psychology      Adolescent Psychology  
Contemporary Social Problems



<b>PREREQUISITES</b>	FOUR YEARS OF HIGH SCHOOL ENGLISH
<b>FOR ADMISSION:</b>	TWO YEARS OF SCIENCE (one must be a laboratory course in Chemistry)
	TWO YEARS OF MATHEMATICS (at least one year of algebra)
	TWO YEARS OF SOCIAL SCIENCE

## **THE ASSOCIATE IN SCIENCE DEGREE NURSING: EVENING PROGRAM**

The Evening Nursing Program is offered through the Division of Continuing Education and Community Services. The program of studies and the educational background required is identical to that of the Day Division program. Students may complete the program in a four-year schedule of part-time study. Students will consider the fundamentals of nursing during the first year. The second year is an in-depth study of maternal and child health care. Studies in the third and fourth years concentrate on medical and surgical nursing. The program requires two evenings per week of classroom and clinical study.

The Evening Nursing Program requires a strong commitment from students to complete a four-year course of part-time study. It is possible, however, for students to fulfill the liberal arts requirements outside the Division of Continuing Education and Community Services.

The Evening Nursing Program is accredited by the National League for Nursing.

## **THE ASSOCIATE IN SCIENCE DEGREE RADIOLOGIC TECHNOLOGY**

The Radiologic Technology Program prepares students with the theoretical knowledge and practical skills necessary to take the National Board Examination, sponsored by the American Registry of Radiological Technologists to qualify for employment in the allied medical specialty radiologic — or x-ray — technology. The curriculum combines classroom courses with clinical experience in selected and approved area hospitals.

The following format is intended as a workable guide for students in course selections and program planning. The Radiologic Technology Program requires 66 credit hours of work.

<b>FIRST SEMESTER</b>		<b>SECOND SEMESTER</b>	
<b>Course</b>	<b>Credit</b>	<b>Course</b>	<b>Credit</b>
English Composition I	3	English Composition II	3
Anatomy and Physiology I	4	Anatomy and Physiology II	4
Radiologic Science I	3	Radiologic Science II	3
Liberal Arts		Liberal Arts	
Mathematics I	3	Mathematics II	3
Radiologic Orientation I	4	Radiologic Orientation II	4
	<u>17</u>		<u>17</u>

### **SUMMER PRACTICUM**

Ten week summer practicum in approved area hospital

**THIRD SEMESTER****FOURTH SEMESTER**

Course	Credit	Course	Credit
Introduction to Psychology	3	Elective (Social Science)	3
Seminar I	3	Seminar II	3
Elective (Liberal Arts)	3	*Elective	3
Radiologic Technology I	3	Radiologic Technology II	3
Principles of Radiologic Technique I	4	Principles of Radiologic Technique II	4
	<u>16</u>		<u>16</u>

\*Students with sufficient academic proficiency are advised to consider some of the four-credit courses as electives.

STUDENTS ADMITTED TO THIS PROGRAM MUST ALSO MEET THE ADMISSION REQUIREMENTS OF THE AFFILIATE HOSPITAL IN WHICH THEY WILL RECEIVE THEIR CLINICAL EXPERIENCE. CONTACT THE OFFICE OF ADMISSIONS AT THE COLLEGE FOR MORE INFORMATION.

### THE ASSOCIATE IN SCIENCE DEGREE DIETARY TECHNOLOGY

The Dietary Technology Program prepares students with skills in food management and nutritional care. Graduates are qualified as Dietary Technicians to assist, under the supervision of a Dietician, in food preparation, food service and patient nutritional care in health care facilities and educational institutions.

THE DIETARY TECHNOLOGY PROGRAM IS OFFERED JOINTLY BY NORTHERN ESSEX COMMUNITY COLLEGE AND THE GREATER LAWRENCE REGIONAL TECHNICAL INSTITUTE. ALL CLASSROOM COURSES ARE HELD ON THE COLLEGE CAMPUS. LABORATORY COURSES AND THE CLINICAL EXPERIENCE ARE LOCATED AT THE TECHNICAL INSTITUTE\*.

The following format is intended as a workable guide for students in course selections and program planning. The Dietary Technology Program requires 61 credit hours of work.

**FIRST SEMESTER****SECOND SEMESTER**

Course	Credit	Course	Credit
English Composition I	3	English Composition II	3
Elective (Mathematics)	3	Introduction to Health Services	2
Anatomy & Physiology I	4	Anatomy & Physiology II	4
Institutional Food Preparation I	3	Institutional Food Preparation II	3
Nutrition and Dietetics I	<u>3</u>	Nutrition and Dietetics II	<u>3</u>
	<u>16</u>		<u>15</u>

THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Introduction to Psychology		Elective	3
or	3	Introductory Chemistry II	4
Social Science Elective		Therapeutic Nutrition II	3
Introductory Chemistry I	4	Internship	<u>5</u>
Therapeutic Nutrition	3		15
Internship	<u>5</u>		
	15		

#### PREREQUISITE

**FOR ADMISSION:** Interview with program coordinator

### THE ASSOCIATE IN SCIENCE DEGREE RESPIRATORY THERAPY TECHNOLOGY

The Respiratory Therapy Technology Program provides practical skills and theoretical background in the application under medical supervision of Respiratory Therapy to patients and in the maintenance and use of respiratory therapy equipment. Clinical experience is provided by the use of the equipment and organizational facilities of affiliated hospitals. Students successfully completing the program are prepared to sit for the examination given by the American Registry of Inhalation Therapy for registration as inhalation therapists.

The following format is intended as a workable guide for students in course selections and program planning. The Respiratory Therapy Program requires a total of 67 credit hours of work.

FIRST SEMESTER		SECOND SEMESTER	
Course	Credit	Course	Credit
English Composition I	3	English Composition II	3
Integrated Science I	3	Integrated Science II	3
Introduction to Respiratory		Ventilatory Management	3
Therapy Procedures	3	Cardio-Pulmonary	
Aerosol Therapy &		Physiology	3
Procedures	3	Seminar II	<u>4</u>
Seminar I	<u>4</u>		16
	16		

#### SUMMER SESSION

Review for Respiratory Therapy Technicians  
3 credits

THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Liberal Arts Mathematics I	3	Directed Studies in	
Physics for Respiratory		Respiratory Therapy	3
Therapists	4	Elective (Liberal Arts)	3
Elective	3	Interdepartmental &	
Cardio-Pulmonary		Interpersonal Relations	2
Technology	3	Respiratory Intensive Care	3
Seminar III	<u>4</u>	Seminar IV	<u>4</u>
	17		15

## THE CERTIFICATE PROGRAM RESPIRATORY THERAPY TECHNOLOGY

A one-year program, the Respiratory Therapy Technology Certificate Program prepares students for an examination given by the American Association of Inhalation Therapy, and receipt of a certificate of competence for proficiency in performing lower level technical functions in the allied health specialty respiratory therapy. The curriculum of this program concentrates on the technical skills necessary to assist respiratory therapists and doctors in the administration of special services related to respiratory treatment.

The following format is intended as a workable guide for students in course selections and program planning. The Respiratory Therapy Certificate Program requires a total of 36 credit hours of work.

### FIRST SEMESTER

Course	Credit
English Composition I	3
Integrated Science I	3
Introduction to Respiratory Therapy Procedures	3
Aerosol Therapy & Pharmacology	3
Seminar I	4
	<u>16</u>

### SECOND SEMESTER

Course	Credit
Integrated Science II	3
Elective (Liberal Arts)	3
Ventilatory Management	3
Cardio-Pulmonary Physiology	3
Seminar II	4
	<u>16</u>

### SUMMER SESSION

Seminar for Technicians  
4 credits

## THE ASSOCIATE IN SCIENCE DEGREE MEDICAL RECORD TECHNOLOGY

The Medical Record Technology Program provides the student with the skills and techniques required to enter the administrative areas of the health professions. The curriculum provides wide opportunity for intellectual development through electives. The technical courses emphasize the preparation, maintenance and analysis of medical reports, records and studies. Graduates are prepared to write an examination for national accreditation. Students who wish to continue their education in a four-year institution should select electives which fill the transfer requirements of the institution they choose.

The following format is intended as a workable guide for students in course selections and program planning. The Medical Record Technology Program requires 64 credit hours of work.

### FIRST SEMESTER

Course	Credit
English Composition I	3
Anatomy and Physiology I	4
Medical Terminology I	2
Medical Record Science I	3
* Typewriting I or Elective	3
	<u>15</u>

### SECOND SEMESTER

Course	Credit
English Composition II	3
Anatomy and Physiology II	4
Medical Terminology II	2
Medical Record Science II	3
**Group A Elective	3
	<u>15</u>

\*Students able to type 45 wpm will be exempt from Typewriting I

\*\*GROUP A ELECTIVES: select one course from each group

Introduction to Psychology

Social Psychology

Principles of Sociology

Contemporary Social Problems



THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Medical Record Science III	3	Medical Record Seminar	1
Directed Practice I	4	Directed Practice II	3
Social Science	3	**Group A Elective	3
Elective (Liberal Arts)	3	Personnel Management	3
Introduction to Data		Elective (Liberal Arts)	3
Processing	3	Transcription II	1
Transcription I	1	Elective	3
	<u>17</u>		<u>17</u>

## THE ASSOCIATE IN SCIENCE DEGREE NURSING HOME ADMINISTRATION

The Nursing Home Administration Program gives students training in the varied phases of institutional management including finance, facilities and equipment, planning and construction, services, health standards and record keeping. The development of a comprehensive view of health care and an understanding of the role of the nursing home in society is emphasized. The program includes an internship period in an approved institution. Graduates will be prepared to fill the requirements of the Commonwealth of Massachusetts for licensure as Nursing Home Administrators.

The following format is intended as a workable guide for students in course selections and program planning. The Nursing Home Administration Program requires 65 credit hours of work.

FIRST SEMESTER		SECOND SEMESTER	
Course	Credit	Course	Credit
English Composition I	3	English Composition II	3
Introductory Accounting I	3	Introductory Accounting II	3
Principles of Nursing Home Administration I	4	Principles of Nursing Home Administration II	4
Introduction to Health Services	2	Introduction to Psychology	3
Human Biology	3	Elective (Liberal Arts)	3
	<u>15</u>		<u>16</u>

THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Internship in Nursing Home Administration	9	Advanced Internship in Nursing Home Administration	9
Elective (Liberal Arts)	3	Gerontology	3
Speech	3	Elective	3
Medical Terminology I	2	Medical Terminology II	2
	<u>17</u>		<u>17</u>

\*\*GROUP A ELECTIVES: select one course from each group  
 Introduction to Psychology      Principles of Sociology  
 Social Psychology      Contemporary Social Problems

**THE DEPARTMENT OF PHYSICAL EDUCATION:  
SPORT, LEISURE STUDIES AND OUTDOOR EDUCATION**

The physical education plan provides a wide variety of physical and recreational activities. Activities which have a carry-over merit for leisure are emphasized, as well as outdoor recreational activities with a lifetime value. Students are motivated to understand the importance of physical fitness, and to assume responsibility for including physical activity in their plans for living.

Physical education academic policies at Northern Essex are:

- There is no physical education requirement
- All physical education courses are elective courses
- Physical education courses are co-educational
- Physical education courses carry one academic credit for every eight weeks of classes
- Physical education courses receive a letter grade
- Physical education credits are computed in the quality point average
- Three physical education credits may be counted toward a degree

Individual and lifetime sport courses offered at the college include:

- |                          |                       |
|--------------------------|-----------------------|
| Archery                  | Physical Conditioning |
| Badminton                | Self Defense          |
| Basketball               | Ethnic Dancing        |
| Fencing                  | Judo                  |
| Field Hockey             | Trampoline            |
| Golf                     | Senior Lifesaving     |
| Gymnastics               | Slimnastics           |
| Yoga                     | Tennis                |
| Ballet                   | Volleyball            |
| Folk and Square Dancing  | Weight Lifting        |
| Fundamentals of Movement | Wrestling             |
| Karate                   | Handball/Paddleball   |
| Modern Dance             | Jogging               |

Outdoor recreational and leisure time activities courses offered at the college include:

- |                          |                                 |
|--------------------------|---------------------------------|
| Backpacking              | Water Safety                    |
| Bowling                  | Sailing                         |
| Canoeing                 | Mountain Climbing/Rock Climbing |
| Swimming                 | Orienteering                    |
| Cycling                  | Winter Camping and Hiking       |
| Fly Fishing/Spin Casting | Snowshoeing                     |
| Scuba Diving             | Outdoor Survival Skills         |
| Cross-Country Skiing     |                                 |

Special topics courses in various aspects of sport, leisure studies and recreational activities are designed for people who want to research to get the feel of physical education, recreation or leisure activities as a career, and for people with special interests and needs.

# Courses

The schedule of courses offered in a given semester is determined at the discretion of the college.

## **AC6601 Introductory Accounting I**

A one-semester course; three credit hours. The basic concepts of accounting and uses of accounting data. Topics include the theory of debit and credit, use of journals and ledgers, analysis and recording of financial transactions, the accounting cycle, deferrals, accruals, inventories, fixed assets, voucher system and payroll. Four class hours per week.

## **AC6602 Introductory Accounting II**

A one-semester course; three credit hours. A continuation of AC6601. Emphasis on accounting for partnerships, corporations, basic cost accounting and cost relationships, and special reports and statements. Four class hours per week.

Prerequisite: AC6601

## **AC6651 Intermediate Accounting I**

A one-semester course; three credit hours. The detailed study of accounting theory and practice as it relates to the balance sheet, income statement, statement of changes in financial position, and current assets. Four class hours per week.

Prerequisite: AC6602

## **AC6652 Intermediate Accounting II**

A one-semester course; three credit hours. The detailed study of accounting theory and practice with emphasis on fixed assets, liabilities and stockholder equity. Four class hours per week.

Prerequisite: AC6602

## **AC6661 Managerial Accounting**

A one-semester course; three credit hours. A study of the analysis of accounting data, rather than the collecting and recording function. The use of accounting as a basis for managerial supervision and planning. Three class hours per week.

Prerequisite: AC6602

## **AC6671 Cost Accounting**

A one-semester course; three credit hours. An intensive study of cost methods; costing for materials, labor and factory overhead. Job-order process, direct costing and the use of standards. Three class hours per week.

Prerequisite: AC6602

## **AC6682 Tax Accounting**

A one-semester course; three credit hours. An introduction to the principles of federal taxation with emphasis on history of income taxation, gross income, deductions, exemptions, accounting records, preparation and filing of tax returns. Three class hours per week.

Prerequisite: AC6602

## **AC6691 Elements of Accounting I**

A one-semester course; three credit hours. Study of current accounting terminology. Introduction to the basic principles and practices of accounting. Topics include: double-entry system and the accounting equation, journals, ledgers, trial balances, work sheets, financial statements, cash and banking procedures, and payroll records. Four class hours per week.

**AC6692 Elements of Accounting II**

A one-semester course; three credit hours. Study of subsidiary ledgers, the voucher system, inventories, receivables and fixed assets. Introduction to accounting for partnerships and corporations. Opportunity for extensive practice through use of long problems and practice sets. Four class hours per week.

**AC6693 Elements of Accounting III**

A one-semester course; three credit hours. Intensive study of the voucher system, corporate organization and accounting, manufacturing accounts, budgeting and internal reporting, interim statements, and analysis of financial statements. Four class hours per week.

Prerequisite: AC6692 or equivalent

**BI5233 Human Biology**

A one-semester course; three credit hours. A basic study of the structure and function of the human body. Emphasis will be placed on the interrelationships between the systems. Special consideration will be given to the nervous system, the circulatory system, and reproduction, growth and development. Three class hours per week.

**BI5511 Introductory Biology – Botany**

A one-semester course; four credit hours. An introductory biology course based on the study of plants. The lectures include a gross and microscopic survey of plant anatomy from algae to the higher vascular plants noting the evolutionary trends, their economic relationship with man, and the fundamentals of physiology and morphology of the higher vascular plants. Three one-hour lectures and one two-hour laboratory period per week.

**BI5514 Introductory Biology – Zoology**

A one-semester course; four credit hours. An introductory biology course based on the study of animals. The lectures include a survey of major invertebrate and vertebrate animals with emphasis on their structure, adaptations, evolution and natural history. Laboratory work emphasizes identification and structural form of local fauna. Three one-hour lectures and one two-hour laboratory period per week.

**BI5519 Anatomy and Physiology I**

A one-semester course; four credit hours. Human anatomical structures and physiological systems will be studied. Emphasis will be placed on the interrelationships between the systems. Related topics such as physical abnormalities and diseases of the systems will be integrated where possible. Laboratory work will include experiments, dissection, microscope work and the study of charts and models. Three one-hour lectures and one two-hour laboratory period per week.

**BI5520 Anatomy and Physiology II**

A one-semester course; four credit hours. A continuation of BI5519 integrating genetics and embryology to provide a basic understanding of the principles of heredity, and the processes of foetal growth and development. Three one-hour lectures and one two-hour laboratory period per week.

**BI5551 Genetics**

A one-semester course; four credit hours. The lectures present the fundamental Mendelian principles and the exploration of more recent discoveries, including DNA molecule and the operon theory of micro-organisms, higher plants and animals. New concepts of gene mutation and gene action are considered. Practical exercises are used to illustrate the principles. Three one-hour lectures and one three-hour laboratory period per week.

Prerequisite: One year of introductory biology subjects at the college level or permission of the instructor.



**BI5553 Microbiology**

A one-semester course; four credit hours. The biology of bacteria and micro-organisms is studied. Laboratory work emphasizes the sterile technique. Immunology is discussed. Three one-hour lectures and one three-hour laboratory period per week.

Prerequisite: One year of introductory biology subjects at the college level and permission of the instructor.

**BI5611 Biology (Nursing Home Administration)**

A one-semester course; four credit hours. Communicable diseases and general principles of physiology, genetics, and evolution are studied. The relationships of plants and animals to man are emphasized. Three one-hour lectures and one two-hour laboratory period per week.

**BI5699/PH5699 Bioethics**

A one-semester course; three credit hours. An examination of the inter-relationship between philosophy and problems arising from advances in modern biology, including the ethical implications of the problems of population control, resource allocation, and biomedicine. This is a discussion course for those students who enjoy dealing with ideas. There are no prerequisites, but a general background in the sciences or philosophy may make the ideas presented in the course more meaningful. This course might not be transferable as a science requirement. Three class hours per week.

**BI5999 Special Topics in Biology**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**\*BK6601 Principles of Bank Operations**

A one-semester course; three credit hours. Survey of banking's relationship to the total economy and the functional relationships of departments within the bank. Develops the framework for more specialized study of the banking institution. Three class hours per week.

**\*BK6602 Savings and Time Deposit Banking**

A one-semester course; three credit hours. A fundamental study of the historical development and economic function of savings institutions and the savings process. Three class hours per week.

**\*BK6611 Money and Banking**

A one-semester course; three credit hours. The practical aspects of money and banking; emphasis is placed on such problems as economic stabilization, types of spending, the role of gold, limitations of central bank control, government fiscal policy, balance of payments and foreign exchange showing their repercussions on the banking industry in affecting yield curves and the structuring of portfolios. Three class hours per week.

**\*BK6612 Bank Management**

A one-semester course; three credit hours. A study of trends in the philosophy and practice of management. Some use of case study. Three class hours per week.

\*Courses designated BK (Banking) are offered through the Division of Continuing Education and Community Services. They are offered primarily for members of the American Institute of Banking, but may be elected by other students upon prior approval.

**\*BK6621 Credit Administration**

A one-semester course; three credit hours. Course concerns itself with a statement and a discussion of factors influencing and determining loan policy; methods of credit investigation and analysis, credit techniques, specific credit problems, and regular as well as unusual types of loans. Three class hours per week.

**\*BK6622 Home Mortgage Lending**

A one-semester course; three credit hours. Examination of mortgage credit in the United States and the structure of the mortgage market. An analysis of the management considerations in mortgage lending and portfolio management. Three class hours per week.

**\*BK6623 Installment Credit**

A one-semester course; three credit hours. Study of the installment credit function; credit information, lending, collections and other procedures as well as inventory financing, special loan programs, business development and advertising, and the public relations aspect of installment lending. Three class hours per week.

**\*BK6624 Trust Department Services**

A one-semester course; three credit hours. Study of trust services, responsibilities of executors and administrators, analysis of the structure of trusts, alternative forms and the general and investment responsibilities of trustees. Three class hours per week.

**\*BK6651 Analyzing Financial Statements**

A one-semester course; three credit hours. Basic considerations in financial statement analysis, basic financial ratios, analysis of working capital, and other items. Three class hours per week.

**\*BK6652 Bank Letters and Reports**

A one-semester course; three credit hours. A review of the forms of letter and report writing as they apply to public relations as well as emphasize fundamental principles underlying modern correspondence. Three class hours per week.

**\*BK6653 Bank Public Relations and Marketing**

A one-semester course; three credit hours. A study of the public relations and marketing aspects of banking as they would apply to relations with customers, the community, and others. Three class hours per week.

**BK6654 Fundamentals of Bank Data Processing**

A one-semester course; three credit hours. A non-technical study of electronic data processing as applied to banks. A survey course. Three class hours per week.

**CC2112 Problems in Early Childhood Education**

A one-semester course; three credit hours. A sociological-psychological study of factors leading to educational success in representative compensatory programs for the young child. This course centers around the role of the family and cultural background as they relate to the development of school skills. Three class hours per week.

**CC2201 Introduction to Early Childhood Education**

A one-semester course; three credit hours. This course provides the student with an understanding of the child's experience in the school as it relates to his total development. It raises particular problems associated with curriculum planning and helps to develop criteria for evaluating a program for young children. Three class hours per week.

\*Courses designated BK (Banking) are offered through the Division of Continuing Education and Community Services. They are offered primarily for members of the American Institute of Banking, but may be elected by other students upon prior approval.

**CC2264 Seminar in the Philosophy of Child Care**

A one-semester course; three credit hours. Students are given the opportunity to summarize their understanding of the theory and practices of Child Care. Analysis of practicum experiences in group discussions serve as preparation of the student's identification as a Child Care para-professional. Three class hours per week.

**CC2311 Observation and Recording of Child Behavior**

A one-semester course; one credit hour. A preliminary study of child behavior in varied institutional settings. Defined areas of child behavior will be observed and recorded. Three practicum hours per week, plus one hour for recording and preparation.

Prerequisite: Enrollment in CC2201

**CC2312 Child Care Practicum I**

A one-semester course; two credit hours. Skills and concepts of learning acquired in Children's Literature and Introduction to Creative Experience will be applied under supervision in selected centers for children. Six practicum hours per week, plus two hours for preparation and conference.

Prerequisite: CC2201, FA7012, present enrollment in EN8401

**CC2353 Child Care Practicum II**

A one-semester course; three credit hours. The student will be actively involved in the varied activities which are part of all child education programs. Not only will the student work with arts, crafts, music and literature, he will also aid the supervising personnel in leading recreational activities, will work with the individual children in defined problem areas, and will record his experiences for seminars held every other week. Nine practicum hours per week, plus three hours for preparation and conference.

Prerequisite: CC2201

**CC2354 Child Care Practicum III**

A one-semester course; five credit hours. The student will have greater responsibilities in his relationship with programs for the young child. Sixteen hours of actual experience in the day care or kindergarten situation allows the student greater involvement in the program. Sixteen practicum hours per week, plus four hours preparation and conference.

Prerequisite: CC2353

**CC2371 Emotional Disturbances of Childhood**

A one-semester course; three credit hours. An application of pertinent data in etiology, nosology and remediation to the disturbed behavior of children in the child care situation. Generally, the course will focus attention upon individualizing children and their problems so that the child care worker will learn to individualize his approach, learning both the limits and benefits of the group setting. Three class hours per week.

**CE6601 Surveying I**

A one semester course, four credit hours. The course is designed to give the student proficiency in the use of surveying instruments. Emphasis is placed on taping, tape corrections, elevation measurements and corrections, angular measurements and adjustments. Neat note taking is stressed. Three class and three laboratory hours per week.

**CE6602 Surveying II**

A one semester course, four credit hours. The course is designed to give the student proficiency in the calculations and measurements for traverses, circular curves, vertical curves, areas, stadia, and topographic surveys. Use of modern instruments and calculation techniques are stressed. Three class and three laboratory hours per week.

Prerequisite: MA5621 and CE6601 or equivalent experience.

**CE6603 Advanced Surveying**

A one semester course, four credit hours. The course is designed to give the student advanced, specialized surveying experience in construction surveying, land boundary surveying, instrument adjustment, Meridian determination, photogrammetry, aerial mapping, introduction to court procedures. Emphasis is placed on highway layout, profiles, cross sections, utility layout, volume estimation, boundary determination, boundary layout, subdivisions, using all available information efficiently. Three class and three laboratory hours per week.

Prerequisite: CE6602 or equivalent.

**CE6612 Drawing for Civil Technology**

A one-semester course; one credit hour. A course designed to give the student a good knowledge of some of the specialized drafting techniques required in the practice of Civil Technology. Topics covered are plan drawing, cross section drawing, profile drawing, inking techniques, printing techniques, etc. Three laboratory hours per week.

Prerequisite: CE6601

**CE6651 Mechanics for Civil Technology**

A one-semester course; three credit hours. Course is designed to give the student a knowledge of statics and dynamics as applied to civil technology problems. Analysis of forces acting on bodies both at rest and in motion are studied in detail. Three class hours per week.

Prerequisite: PI5621 and PI5622

**CE6653 Strength of Materials**

A one-semester course, four credit hours. The course is designed to acquaint the student with the relationship between externally applied forces and the internally induced stresses in various types of structural members and parts, such as bolts, rivets, shafts, pressure tanks, beam and columns. Also covered is the relationship between the externally applied forces and the resulting deformations. Particular attention is given to beam bending, column loadings, tension in shafts, centroids and moments of inertias, combined stresses in structural elements. Three class hours and three laboratory hours per week.

Prerequisite: CE6651 or equivalent

**CE6654 Structural Analysis and Design**

A one-semester course, three credit hours. The course includes the fundamental principles involved in the design of steel and reinforced concrete structures. The student learns the basic analysis and design techniques for beams, columns, walls, footings, retaining walls, floor systems and flat slabs as specified by modern building codes. Fundamentals of timber design are also covered. Three class hours per week.

Prerequisite: CE6653 or equivalent.

**CE6663 Highway Engineering**

A one-semester course, three credit hours. The course is designed to give the student a basic understanding of the problems involved in modern highways. The course covers the following areas of concern: highway planning and economy, interrelationship between driver, vehicle, characteristics and highway design, subgrade design & construction, construction techniques of base courses and pavements, and attention will be given to various pavement choices including cement-concrete and bituminous asphalt. Three class hours per week.

Prerequisite: CE6601 and CE6602

**CE6671 Sanitary Engineering**

A one-semester course; three credit hours. The course is designed to give the student a knowledge of the problems and solutions of water supply and sewerage. The course considers the problems of water from rainfall, through storage, storm drainage, hydraulics, distribution and treatment of drainage water, collection, disposal and treatment of sanitary sewage. Water and storm drainage and sanitary sewerage systems design is stressed. Three class hours per week.



**CE6672 Soil Mechanics**

A one-semester course; four credit hours. The course is designed to give the student a basic knowledge of the problems of soil. The course teaches the student to understand and evaluate the properties of soil materials. Lectures are reinforced by the use of a soil testing laboratory which enables the student to develop a thorough knowledge of soil testing techniques and proper use of experimental data. The course also deals with the topics of the interaction of soils with groundwater; consolidation of soil and settlement of structures; and the bearing capacity of soil under foundations. Three class hours per week and three laboratory hours per week.

**CH5001 Pre-College Chemistry**

A one-semester course; no credit hours. This course is designed for the student who plans, at a future date, to enroll in a first-year college chemistry course and desires a head start. Topics covered include energy, matter, measurements, interaction between atoms, and chemical equilibrium. The use of mathematics will be at a minimum. Three one-hour lectures per week.

**CH5501 General Chemistry I**

A one-semester course; four credit hours. Deals with physical chemistry. The study of the principles of chemistry by a reliance on the measurement and mathematical treatment of chemical units. The application of these units to the interaction of chemical substances under mechanical, thermal and electrical changes as exemplified by considering the combinations by weight, the gas laws, electro-chemistry and chemical equilibrium in gaseous and solution reactions. Three class hours and one three-hour laboratory period per week.

**CH5502 General Chemistry II**

A one-semester course; four credit hours. A continuation of General Chemistry I dealing with physical and inorganic chemistry, and an introduction to organic chemistry. Three class hours and one three-hour laboratory period per week.

Prerequisite: CH5501

**CH5503 Introductory Chemistry I**

A one-semester course; four credit hours. The course covers the basic understanding of atomic structure of the elements, periodic table and radioactivity. The study of solid, liquid, and gaseous states of matter is undertaken. Three one-hour lectures and one three-hour laboratory period per week.

**CH5504 Introductory Chemistry II**

A one-semester course; four credit hours. The course covers the study of solutions, acids, bases and neutralization. The application of physical chemical theory to inorganic chemistry. A brief review of organic chemistry is undertaken with special emphasis on how this aspect of chemistry relates to biological systems. Three one-hour lectures and one three-hour laboratory period per week.

**CH5507 Organic Chemistry I**

A one-semester course; four credit hours. Organic chemistry is the study of organic compounds. The course includes the synthesis of aliphatic and aromatic compounds from petroleum and coal derivatives and the study of the functional groups of these primary series. The course will provide a foundation for the study of complex carbon compounds in a technological society with special emphasis towards the understanding of the chemistry of the life sciences. Three class hours and three laboratory hours per week.

Prerequisites: CH5501 and CH5502 and CH5503 and CH5504 or permission of the instructor.

**CH5999 Special Topics in Chemistry**

A one-semester course; one to four credit hours. Directed readings, directed research seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**CT6601 Fundamentals of Digital Logic**

A one-semester course; three credit hours. The evolution of data processing or automatic computation. The mechanics of automatic computation including number system, logic, codes, arithmetic operations, and organizations are covered in detail. Three one-hour lectures per week.

**CT6611 Business Programming I**

A one-semester course; four credit hours. Unit record equipment is studied as an off-lines aid to the use of a computer. Introduction to business programming through Report Program Generator coding. Three one-hour lectures and one two-hour laboratory period per week.

**CT6622 Scientific Programming**

A one-semester course; four credit hours. A comprehensive study of FORTRAN and/or equivalent programming language with related mathematics. Three one-hour lectures and one two-hour laboratory period per week.

**CT6631 Introduction to Data Processing**

A one-semester course; three credit hours. Data processing from manual systems to computers, developments in the field, the equipment involved, how the equipment is used, how it works, and the applications of data processing systems. Develops understandings preparing students to cope with computer phenomenon as it relates to their field, or to further develop competency in machine operation or computer programming. Three class hours per week.

**CT6635 Basic Programming I**

A five-week course; one credit hour. Fundamentals of programming, including terminal operation, flow charting, simple loops, branching, numeric and string variables. Three one-hour meetings per week.

**CT6636 Basic Programming II**

A five-week course; one credit hour. Nesting loops, subscripted variables, string manipulation, subroutines. Three one-hour meetings per week.

Prerequisite: CT6635

**CT6637 Basic Programming III**

A five-week course; one credit hour. Functions, data storage, and retrieval techniques, advanced project of special interest to the student. Three one-hour meetings per week.

Prerequisite: CT6636

**CT6651 Assembly Language Programming**

A one-semester course; four credit hours. A thorough study of the absolute machine language and the assembler for the computer on campus. Three one-hour lectures and one two-hour laboratory period per week.

**CT6652 Business Programming II**

A one-semester course; four credit hours. A detailed study of COBOL and/or equivalent programming language with applications. Three one-hour lectures and one two-hour laboratory period per week.

**CT6676 Systems Development and Design**

A one-semester course; four credit hours. Effective use of data processing equipment in meeting the needs of business. The approach, requirements of the systems, developing the solution, data and system implementation. Three one-hour lectures and one two-hour laboratory period per week.

**CT6678 Advanced Programming**

A one-semester course; four credit hours. Basic concepts of programming systems, assemblers and compilers, report generators, utility programs, data scheduling systems, sort-merges, monitors and high level languages. Three one-hour lectures and one three-hour laboratory period per week.

**CT6682 Computer Applications to Civil Technology Problems**

A one-semester course; four credit hours. The course is designed to give the student a knowledge of the computer solutions to the great quantities of calculations that are necessary in practice. Basic computer operation and programming techniques are covered with emphasis on FORTRAN and COGO languages. Three class hours and three laboratory hours per week.

Prerequisite: MA5621 and MA5622

**DT6401 Institutional Food Preparation I**

A one-semester course; three credit hours. Designed to orient students to the fundamentals of institutional food preparation and management as related to hospitals, nursing homes, and community food service areas. Students will have supervised food preparation and service experience. Six combination lecture and laboratory hours per week.

**DT6402 Institutional Food Preparation II**

A one-semester course; three credit hours. Emphasis is placed on the student as a member of the diet therapy team. Included is supervision of food preparation and service, menu planning, and food purchasing techniques, management training and those accounting principles which relate to health care food preparation departments. Field trips are planned at health facilities. One lecture hour, and four lecture-laboratory combination hours per week.

Prerequisites: DT6401 and DT6411

**DT6411 Nutrition and Dietetics I**

A one-semester course; three credit hours. The course presents the fundamental principles of human nutrition with emphasis upon the relationships to the basic health of the individual and society. Knowledge of the nutrition content of foods is applied to menu planning for different ages and conditions such as, weight control, infant and child feeding, requirements of pregnancy and lactation, problems of the aged, and the ill.. Three classroom lecture hours per week.

**DT6412 Nutrition and Dietetics II**

A one-semester course; three credit hours. The course serves as a further introduction on a continuous basis, of the formal aspects of nutritional dietetics, and its practical and scientific applications in the health care setting. This course explores with the student, those principles as outlined in semester one. Three classroom lecture hours per week.

Prerequisites: DT6401 and DT 6411

**DT6421 Therapeutic Nutrition I**

A one-semester course; three credit hours. This course includes the study and preparation of normal and therapeutic diets. Consideration is given to the planning and calculation of diets necessary for effective treatment of various disease process. Two classroom lecture hours, and one two hour laboratory per week.

Prerequisites: DT6402 and DT6412

**DT6422 Therapeutic Nutrition II**

A one-semester course; three credit hours. This course includes the preparation of standard hospital diets with modifications for restricted and/or special diets. The importance of diet therapy in the treatment of illness and the psychological effect of food is discussed. An understanding of the purpose and importance of each diet is stressed. Two classroom lecture hours, and one two hour laboratory per week.

Prerequisites: DT6421 and DT6431

**DT6431 Internship in Dietary Technology I**

A one-semester course; five credit hours. The course relates directly with experience connected with dietary departments in health care facilities (hospitals). Students will follow a set clinical schedule of working and learning within the health related institution under supervision of an A.D.A. staff dietician. Two classroom lecture hours, plus eight laboratory type practice hours per week.

Prerequisites: DT6421 Concurrently

**DT6432 Internship in Dietary Technology II**

A one-semester course; five credit hours. The course relates with dietary experience in health related agencies with emphasis on nursing homes, and is under the guidance of an A.D.A. dietician. Two classroom lecture hours, plus eight laboratory type practice hours per week.

Prerequisites: DT6422 Concurrently

**EC3311 Principles of Economics I**

A one-semester course; three credit hours. Introduction to macro-economic analysis and policy. An examination of the foundation and nature of economic principles as they apply to national output, money and banking, and monetary and fiscal policy. Course also focuses upon the problems of employment, inflation, economic growth as illuminated by modern national income analysis. Three class hours per week.

**EC3312 Principles of Economics II**

A one-semester course; three credit hours. Introduction to micro-economics. This semester centers upon the functioning of individual markets and their effectiveness for resource allocation. Includes price and production theory, the distribution of income, comparative economic systems, international trade, and the theory of household behavior. Three class hours per week.

Prerequisite: EC3311

**EC3652 Survey of Economics**

A one-semester course; three credit hours. A non-technical survey of current economic problems. Background of economic concepts and terminology. Some focus on comparative economic systems. Not recommended for transfer students. Three class hours per week.

**ED2211 Observation of Classroom Dynamics**

A one-semester course; one credit hour. The primary objective of the course is to introduce the student to the role and responsibilities of a teacher and an aide. The student will observe in a classroom for four hours a day, one day a week. The student may, under some circumstances, assist the teacher in teacher-initiated situations. Students will be required to keep a daily journal as specified by the field experience supervisor. This course will generally be taken simultaneously with ED2244, Introduction to the Role of the Educational Assistant. Four practicum hours per week, including one hour of conference and preparation time.



**ED2212 Classroom Experience I**

A one-semester course; three credit hours. The student will develop increased familiarity with the role and responsibilities of the educational assistant. Under the supervision of a cooperating teacher, the student will work with children in large and small groups as well as in a tutorial manner. The student will also assist the teacher in other activities deemed valuable and appropriate. Students shall be required to maintain a journal as specified by the practicum supervisor. One class hour and eight practicum hours per week, including preparation and conference time.

**ED2244 Introduction to the Role of Educational Assistant**

A one-semester course; three credit hours. The primary objective of the course is to assist the student in better understanding the role and responsibilities of an Educational Assistant. Course activities will include lectures, guest speakers, small and large group discussion, and field trips. The emphasis of all activities will be upon a sharing of knowledge and experience in order to assist the student more clearly understanding the aide's role. For this purpose, the experience drawn from ED2211 or equivalent experience will be drawn upon heavily. Three class hours per week.

**ED2255 Classroom Experience II**

A one-semester course; three credit hours. The student shall build upon the experience gained in ED2244 and ED2212 in developing increased familiarity with the role and responsibilities of the educational assistant. Students shall be required to maintain a journal as specified by the practicum supervisor. One class hour and eight practicum hours, including preparation and conference time.

**ED2256 Classroom Experience III**

A one-semester course; three credit hours. The student shall build upon the experience gained in ED2211, ED2244, ED2212 and ED2255 in developing increased familiarity with the role and responsibilities of the educational assistant. This course will generally be taken simultaneously with ED2262, Education Seminar. Twelve practicum hours per week, including preparation and conference time.

**ED2260 Intensive Classroom Experience**

A four-week course; three credit hours. The student will work in a classroom full time for five days, two weeks; and four days, two weeks, usually during the January intersession. The student will build upon experience in ED2211. The course provides an opportunity for the student to follow through on learning activities and to participate in a wide variety of experiences not available in the other courses in which work is done one day a week. There will also be two three-hour class sessions on campus with the practicum supervisor. A journal will be required as specified by the practicum supervisor. Thirty-two to forty practicum hours, including conference and preparation time, for four weeks; and three class hours for two weeks. This course may be taken in lieu of ED2212 or ED2255.

Prerequisite: Permission of the instructor.

**ED2262 Education Seminar**

A one-semester course; three credit hours. In this seminar course the students will be given an opportunity to summarize and analyze their classroom experience. In addition, they will be exposed to and involved in a number of areas directly related to the role and responsibilities of the educational assistant. Guest speakers, research projects, seminar discussions and other activities will be included. Three class hours per week.

**ED6670 School Budgeting and Records Management**

A one-semester course; three credit hours. The keeping of financial, student, personnel, inventory and other records. Indexing principles review, filing procedures and techniques as applied to educational systems. Three class hours per week.

**ED6671 School Law**

A one-semester course; three credit hours. An introduction to Massachusetts public school law as it pertains to the educational secretary. Three class hours per week.

**ED6672 School Administration**

A one-semester course; three credit hours. A study of educational organization and the system designed for effective functioning of educational groups. Emphasis is placed on decision-making and priority-setting within an educational frame of reference. Three class hours per week.

**EN0101 Journalism I**

A one-semester course; three credit hours. To be offered both semesters. The course will analyze and compare current newspapers and magazines, and will emphasize newswriting, reporting, copy editing and layout. Knowledge of typing is recommended. Three class hours per week.

**EN0121 Creative Writing**

A one-semester course; three credit hours. A seminar in writing beyond the freshman level, especially recommended for English majors, prospective teachers, and students who have exempted freshman English. The art of various types of imaginative literature is examined as a guide to the development of individual style, with emphasis on writing practice and group evaluation. Three class hours per week.

**EN0401 Reading Strategies**

A one-semester course; three credit hours. Designed to expose students to effective reading and study techniques. Emphasis is placed on understanding the printed word in various forms — phrases, sentences, paragraphs, and whole selections. Some of the areas explored include concepts such as main ideas, significant details, vocabulary expansion and idea relationships like cause and effect, comparison-contrast, explanation, etc. The application of processes such as association, visualization, concentration and repetition is stressed to facilitate interpretation and memory of passages. Critical reading skills and organized approaches to study are also considered. Diagnostic testing is done at the beginning and end of the course. Three class hours per week.

**EN0403 Teaching Reading in the Elementary Grades**

A one-semester course; three credit hours. Investigation of the reading process from the readiness stage through grade six. The basal reader approach, sequential development of phonic skills, and the development of comprehension and study skills will be the major areas of concern. Various types of reading disability will be explored along with methods of diagnosis: specifically the Informal Reading Inventory. Students will survey methods and materials used in the teaching of reading. Current issues will be examined. Three class hours per week.

**EN1276-EN1277 Intensive ESL Program**

The Intensive ESL Program is designed to provide an opportunity for foreign-born area residents to increase their proficiency in English rapidly through concentrated study. Students may wish to enroll in this program for a variety of reasons: to meet college entrance requirements for English language competency, to qualify for expanded job opportunities, or to increase familiarity with the language and customs of this country for personal enrichment.

Two one-semester intensive courses in English as a Second Language are offered: EN1276, Introductory-Intermediate ESL and EN1277, Advanced ESL. Both courses involve full-time study of listening, speaking, reading and writing skills, understanding American culture, and learning how to live in the American milieu. In EN1276, special emphasis is placed on sentence structure and conversational skills; while EN1277 emphasizes reading comprehension and paragraph writing.

Spanish GED math preparation is an optional supplement. Advanced students audit additional college courses. Special academic and personal counseling is available to all students in the program. Certificates are granted for satisfactory completion of each ESL course. Fifteen class hours per week.

**EN1276 Intensive ESL I (Introductory-Intermediate)**

A one-semester course; six credit hours. Full-time study of English for non-native speakers at an introductory-intermediate level, including listening, speaking, reading and writing skills, understanding American culture, and learning how to live in the American milieu, with special emphasis on conversation and structure skills. Small group and individualized instruction. Does not satisfy the college's English Composition I or English Composition II requirements. Certificate awarded for satisfactory completion. Fifteen class hours per week.

**EN1277 Intensive ESL II (Advanced)**

A one-semester course; six credit hours. Full-time study of English for non-native speakers at an advanced level, including listening, speaking, understanding American culture and learning how to live in the American milieu, with special emphasis on reading and writing skills. Small group and individualized instruction. Does not satisfy the college's English Composition I or English Composition II requirements. Certificate awarded for satisfactory completion. Fifteen class hours per week.

**EN1278 Methods of Teaching English as a Second Language**

A one-semester course; three credit hours. An introduction to current methods of teaching English to non-native speakers; includes four hours of assistant teaching per week in the college's Intensive ESL Program plus one seminar hour per week. Recommended for students interested in teaching or social service. Five class hours per week.

**EN2455 The Art of the Movies**

A one-semester course; three credit hours. This course will attempt to foster critical taste in film. Students will explore the role of film in contemporary society by viewing and discussing: documentaries, experimental films, impressionistic films, animated films and commercial films. Discussion and analysis will acquaint the student with the interrelationship of film technique and content. Three class hours per week.

**EN3011 Reading Improvement**

A one-semester course; no credit hours. This course is designed to aid students in the overall improvement of their verbal skills. Special attention will be paid to increasing skill in speed and comprehension of reading. The course is structured to provide a flexible and individualized approach to reading skill improvement, vocabulary building and critical reading. Three class hours per week.

**\*EN4311 Communications I**

A one-semester course; three credit hours. A writing and reading course which is closely related to Humanities I. The origin of language, social aspects of language, presymbolic and symbolic language, and social control through language will be studied as they relate to man's biological and social nature. Writing and reading assignments will be interrelated with Humanities I. Three class hours per week.

\*Course offered in Discovery Program only.

### **EN4401 English Composition I**

A one-semester course; three credit hours. A required course to develop clear, effective writing, including the special techniques in communication and the development of ideas that enable the student to organize his thoughts and interest others in them. Three distinct approaches are offered to meet specified needs: Guided Writing, Writing from Experience, Patterns of Writing. Three class hours per week.

**Option 1:** Guided Writing — a laboratory course in controlled composition to develop usage and organizational skills through individual assignments leading to the thesis-supported paper.

**Option 2:** Writing from Experience — using personal observation, experience, thought and language to reach others, progressing from narration to thesis-supported writing.

**Option 3:** Patterns of Writing — using selected readings and personal experience, with emphasis on method to move from exposition to thesis-supported writing.

### **EN4402 English Composition II**

A one-semester course; three credit hours. Analytical writing: continuing focus on thesis-supported papers and extending its range. Three different emphases are offered to accommodate the variety of student interests: Introduction to Literature, Films and Practical College Writing. Three class hours per week.

**Option 1:** Introduction to Literature — an examination of selected literary forms (short story, novel, poem, drama) through study of form or theme. Selections will be made on the grounds of literary excellence, accessibility and immediacy of interest.

**Option 2:** Film — an examination of selected documentary, fictional, experimental and animated films to discover the similarities and differences between cinematic and literary forms.

**Option 3:** Practical College Writing — specifically directed to the needs of the student seeking the bachelor's degree. Among the forms of writing that will be taught are the essay test, a critical review of a non-fiction book, the research paper in the humanities, and analytical papers on poetry, drama and fiction.

Prerequisite: Completion of EN4401 with a grade of C or better

### **EN4403 Advanced Composition**

A one-semester course; three credit hours. A seminar in writing beyond the freshman level, designed for students seriously interested in writing. Types of non-fiction and fiction will be examined as guides in the development of writing style. Three class hours per week.

Prerequisite: EN4401 and EN4402 or permission of the instructor.

### **EN4676 Technical Writing**

A one-semester course; three credit hours. Engineering and scientific report writing. General inductive exposition with emphasis upon research writing, industrial reports and graphic techniques. Three class hours per week.

Prerequisite: EN4401 and EN4402

### **EN8011 Speech**

A one-semester course; three credit hours. Instruction and practice in skills essential to effective oral communication. The course includes organization, presentation and audience analysis as well as instruction in diction, volume and posture. Three class hours per week.

### **EN8012 Oral Interpretation**

A one-semester course; three credit hours. Designed to present the various techniques in effective oral reading. Stress is placed on vocal flexibility, imagery, and emotional involvement. A wide range of dramatic literature will be used. Three class hours per week.

Prerequisite: EN8011 and permission of the instructor.



**EN8013 Skill and Motivation Development**

A one-semester course; no credit hours. A preliminary course, offered in the Summer Session, designed to increase an incoming student's awareness of the skills and mechanics necessary for the college experience. The course meets five days a week during Summer Session.

**EN8401 Children's Literature**

A one-semester course; three credit hours. An introductory course in children's books. Considers the history of children's literature and contemporary authors. Study of criteria of good literature, children's interests and developmental stages related to books, various genre of children's literature, children's book awards, illustrators and authors, and reference sources. Three class hours per week.

**EN8801 The Bible as Literature**

A one semester course, three credit hours. Designed to capture the atmosphere and literary qualities and techniques of the Hebrew and Greek scriptures in translation, it would include reading and analysis of the several genres, as poetry, drama, short story, hortatory essay, and others. Three class hours per week.

**EN8851-EN8852 Masters of American Literature I and II**

A two-semester course; three credit hours per semester. A study of the most important American novelists, poets and belle-lettrists from 1850 to the present. The emphasis is on the reading of works in their entirety, with depth of reading as well as catholicity being the objective. Typical authors who will form the subject of the course: Frost, Eliot, Hemingway, Faulkner, Salinger, Sinclair Lewis, Dreiser, Crane, Mark Twain, Melville, Hawthorne. Three class hours per week.

**EN8853-EN8854 Masters of British Literature I and II**

A two-semester course; three credit hours per semester. A study of the major works of selected English poets, dramatists and prose writers, with their historical and literary background, will be directed through lectures and prescribed reading, with special exercises in interpretation and criticism. Three class hours per week.

**EN8861-EN8862 Masters of Western Literature I and II**

A two-semester course; three credit hours per semester. An analysis of the literary masterpieces of the Western Tradition, emphasizing the literary philosophy and art of each author. Authors to be considered include Homer, Sophocles, Aeschylus, Plato, Dante, Strindberg, Ibsen, Cervantes, Chekhov, Gogol, Hawthorne, Melville. Variations in selections and authors occur from year to year. Three class hours per week.

**EN8863 Modern European Literature**

A one-semester course; three credit hours. Focus on the individual's existential response to the human condition as seen in the works assigned; treatment of literary movements represented by these works: existentialism, new-romanticism, rural naturalism, symbolism, impressionism, expressionism, literature of psychology; supplementary readings in philosophy, religion, psychology as they apply to various works; in addition to required readings, one major project will be required; the following authors will be considered: Kafka, Beckett, Rimbaud, Rilke, Lorca, Jimenez, Silone, Camus, Sartre, Kazantzakis, Rostand, Malraux, Ionesco, Strindberg, Hesse, Hamsu, Eliot. Three class hours per week.

**EN8864 Shakespeare and the Nature of Man**

A one-semester course; three credit hours. A course analyzing the background, dramaturgy, and content of selected plays of Shakespears, approached thematically to incorporate the timeless predicament of man. Three class hours per week.

**EN8865 The Black Experience**

A one-semester course; three credit hours. A study of American Black literature that will include a few representative novels and autobiographies and a sample of short stories and poems, mostly by Black writers, to better understand the relationship between literature and life. Three class hours per week.

**EN8871 The English Novel**

A one-semester course; three credit hours. Reading and discussion of great representative novels from 1740 to the present. Readings to be selected by the instructor. Three class hours per week.

**EN8881 The American Novel**

A one-semester course; three credit hours. Reading and discussion of significant novels of the nineteenth and twentieth centuries. Included among the authors considered are: Twain, Melville, Hawthorne, Crane, Dreiser, Henry James, Fitzgerald, Steinbeck, Anderson, Hemingway, Salinger, Bellow, Faulkner, Flannery O'Connor. Analysis of form and philosophy. Three class hours per week.

**EN8883 Women in Literature and Life**

A one-semester course; three credit hours. A study of literary and historical accounts of women in courtly society (late Middle Ages through Early Renaissance) and in democratic society (1890-1970) for the purpose of tracing the cultural influence of an idea, the idea of courtly love, on literature and life. One one-hour lecture and one two-hour seminar discussion per week.

**EN8884 Twentieth Century Woman in Film and Art**

A one-semester course; three credit hours. Offers the student an examination of the multiple views of woman as seen through the arts of this century. Looking at examples from poetry, literature, film, sculpture and painting, the student will be exposed to the varied attitudes toward self, beauty, socialization, exploitation, and destiny of the twentieth century woman. (The course is to be offered on an alternate basis with "Women in Literature and Life.") It is suggested that the student take "Women in Literature and Life" prior to this course, but it is not mandatory. One one-hour and one two-hour class per week.

**EN8891 Introduction to Poetry**

A one-semester course; three credit hours. Designed to acquaint the student with the various forms and scope of poetry. Among the poets considered are Marvell, Shakespeare, Byron, Keats, Dickinson, Poe, Eliot, Pound, Plath, et al. This course is to be an overview of the concept of poetry. Three class hours per week.

**EN8893 The Contemporary Novel**

A one-semester course; three credit hours. Readings in British, American, French, German, Russian and South American fiction with special emphasis on philosophical and archetypal linkage. Three class hours per week.

**EN8999 Special Topics in English**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**ES5501 Meteorology (Earth Science I)**

A one-semester course; four credit hours. A basic study of the elements which constitute weather: temperature, pressure, winds, humidity and precipitation. Further study includes global patterns of weather conditions and the resultant climatic zones. Three one-hour lectures and one two-hour laboratory period per week.

### **ES5502 Physical Geology (Earth Science II)**

A one-semester course; four credit hours. Introduction to landforms and the processes of their formation: erosion by wind, water, ice; beaches and wave action. Further study is accomplished through the use of topographic maps. Additional topics include descriptions of basic rocks and minerals, volcanism, mountain building and crustal movement. Three one-hour lectures and one two-hour laboratory period per week.

### **ES5504 Mineralogy**

A one-semester course; three credit hours. An introductory course in the basic rock-forming minerals. The classification of minerals is examined on the basis of chemical, physical and optical properties, with an introduction to crystal structure. The course concludes with a study of basic rock groups based on their mineralogical composition. Laboratory work centers on the identification of the more important minerals in both hand specimens and microscopic thin sections. Two lectures and one two-hour laboratory period per week.

Prerequisite: ES5502 or permission of the instructor.

### **ES5999 Special Topics in Earth Science**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

### **ET6113 Introduction to Electronics**

A one-semester course; one credit hour. An orientation course of seminar classes and experiences designed to acquaint the student with the field of electronic technology — its breadth and its opportunities. In addition to discussions, emphasis will be placed on the students actually examining physical devices and systems such as motors, transistors, amplifiers, recorders, radios, televisions and computers. One three-hour class/lab per week.

### **ET6601 Graphics**

A one-semester course; two credit hours. This course stresses communication by graphical or pictorial means. Lettering, graphics sketching, orthographic projection, auxiliary views, dimensioning, descriptive geometry principles are topics covered. Neatness is emphasized throughout. One class hour and one two-hour laboratory period per week.

### **ET6611 Circuit Analysis I**

A one-semester course; four credit hours. Introduction to the analysis of electric circuits using D.C. sources. Applications of Kirchoff's Voltage and Current Laws, superposition, loop analysis, nodal analysis and Thevenin's Theorem. Three class hours and one three-hour laboratory period per week.

### **ET6612 Circuit Analysis II**

A one-semester course; four credit hours. Extension of the theorems developed in ET6611 as they apply to circuits excited by sinusoidal sources. Energy considerations, storage of energy, RMS determinations and transformers. Three class hours and one three-hour laboratory period per week.

Prerequisite: ET6611

### **ET6651 Engineering Mechanics I — Statics**

A one-semester course; three credit hours. Development of fundamental concepts of mechanics such as vectors, forces and moments. Detailed treatment of free body diagrams and their application to force systems. Laws of static equilibrium, friction forces, first and second moments, and problems involving various structures and machine parts. Methods of solution will include vector analysis, matrix methods and computer-aided analysis. Three class hours per week.

**ET6652 Engineering Mechanics II – Dynamics**

A one-semester course; three credit hours. Basic laws of kinematics of particles and rigid bodies involving linear, angular, relative and absolute motion. Newton's Laws and their application to the kinematics of rigid bodies in translation, rotation and plane motion; and the principles of work, kinetic energy, impulse and momentum. Methods of solution will include vector analysis, matrix methods and computer-aided analysis. Three class hours per week.

Prerequisite: ET6651

**ET6653 Circuit Analysis III**

A one-semester course; four credit hours. Study of the behavior of electric circuits excited by non-linear sources. Fourier series, pulse circuits, and non-linear elements. Three class hours and one three-hour laboratory period per week.

Prerequisite: ET6612

**ET6655 Electronics V – Measurements**

A one-semester course; four credit hours. Study of the problems in precise measurements of the fundamental parameters of voltage, current, velocity, acceleration, displacement, time and events per unit time. Emphasis will be on usage and limitations of current equipment. Three class hours and one three-hour laboratory period per week.

Prerequisite: ET6612

**ET6661 Networks I**

A one-semester course; four credit hours. Introduction to general network solutions employing mathematical models and topology. Emphasis on steady state network solutions using Kirchhoff's Laws, Thevenin's Theorem, superposition theorem, loop and nodal analysis. Three class hours and one three-hour laboratory period per week.

**ET6662 Networks II**

A one-semester course; four credit hours. Study of electrical networks under transient conditions. Use of singularity functions, pole zero plots and Fourier Series solutions are included. Three class hours and one three-hour laboratory period per week.

Prerequisite: ET6661

**ET6682 Electronics IV – Pulse and Digital**

A one-semester course; four credit hours. A study of pulse circuits, digital logic and logic circuits. The fundamental operators of boolean algebra, circuits to perform the operations, bistable circuits, other industrial devices, and switching properties of semi-conductors are analyzed. Three class hours and one three-hour laboratory period per week.

**ET6685 Electronics I – Semiconductors**

A one-semester course, four credit hours. An introductory course in solid-state physics and semiconductor devices such as diodes, transistors, silicon controlled rectifiers, field effect transistors, unijunction transistors. Applications of these devices such as rectification and amplification, are studied on an introductory basis. One three-hour class and one three-hour lab per week.

**ET6686 Electronics II – Electronic Circuits I**

A one-semester course; five credit hours. A course in transistor amplifiers, including transistor manufacturing methods, biasing and stability, amplifiers in cascade, feedback amplifiers, operational amplifiers and frequency response. Course culminates in the design of a practical, functioning amplifier. Four class hours and one three-hour laboratory period per week.

Prerequisite: ET6687 and MA5621



### **ET6689 Electronics III — Electronic Circuits II**

A one-semester course; five credit hours. Power amplifiers including Class A, Class B push-pull and Class C. Tuned circuit amplifiers. Oscillators. Modulation and demodulation. Power supplies and regulation. Op-amps as differentiators and integrators. Four class hours and one three-hour laboratory period per week.

Prerequisites: ET6688 and MA5622

### **EV5621 Environmental Sanitation**

A one-semester course; four credit hours. Methods of disease transmission, hygienic excreta disposal, municipal and industrial liquid waste disposal methods, characteristics of water, water treatment, protection of ground water, insect and rodent control, solid waste collection and disposal, milk and food sanitation, swimming pool sanitation and industrial hygiene, air pollution. Three one-hour lectures and one three-hour laboratory period per week.

### **EV5622 Applied Microbiology**

A one-semester course; four credit hours. Scope and history of microbiology, classification of microorganisms, protozoa, fungi, viruses, microscopy, bacterial physiology, saprophytic bacteria, culture media and methods, sterilization and disinfection, germicides, sources of infection, microbes and disease, skin infections. The study of several pathogenic bacteria associated with water and food, natural and acquired resistance to bacteria, and respiratory disease-producing microbes. Three one-hour lectures and one three-hour laboratory period per week.

### **EV5624 Air Resources Management**

A one-semester course; three credit hours. A course presenting the blending of all approaches designed for prevention and control of air pollution including abatement of smoke, control of auto exhausts and handling complaints as well as other technical and administrative facets of air resources management. Three one-hour lectures per week.

### **EV5625 Sanitary Chemistry I**

A one-semester course; four credit hours. Theory and laboratory technique for all control tests of water purification including: bacteriology, color, turbidity, pH, alkalinity, hardness, coagulation, chlorides, fluorides, iron, manganese, detergents, bactericides, and nitrates. Three one-hour lectures and one three-hour laboratory period per week.

### **EV5626 Sanitary Chemistry II**

A one-semester course; four credit hours. Theory and laboratory technique for the determination of solids, dissolved oxygen, oxygen consumed, relative stability, water and sewage bacteria, biochemical oxygen demand, organic nitrogen, volatile acids, toxic metals, stream studies, in-plant studies at nearby plants. Three one-hour lectures and one three-hour laboratory period per week.

Prerequisite: EV5625

### **EV5627 Environmental Biology I**

A one-semester course; four credit hours. An introductory course to aquatic environments emphasizing the physical and chemical nature of lakes, ponds, rivers, and streams. Relationships of the physical nature of water and their micro flora and fauna and methods for sampling, culturing, and identifying type organisms will be stressed. Three one-hour lectures and one three-hour laboratory period per week.

### **EV5628 Liquid Waste Treatment**

A one-semester course; four credit hours. Composition of sewage, nitrogen cycle, carbon cycle, sulphur cycle, aerobic and anaerobic decomposition, dilution, screening, disinfection, chemical precipitation, sand filters, filter flies, field studies, in-plant studies, industrial waste. Three one-hour lectures and one three-hour laboratory period per week.

Prerequisite: EV5626

**EV5629 Water Purification**

A one-semester course; four credit hours. Basic principles of water purification including: aeration, sedimentation, rapid sand filtration, chlorination, treatment chemicals, taste and odor control, bacteriological control, mineral control, design criteria and operational problems. New processes and recent developments. Rules, regulations, forms and records. Three one-hour lectures and one three-hour laboratory period per week.

**EV5630 Atmosphere Sampling and Analysis**

A one-semester course; four credit hours. Methods of treatment, detailed study of at least two types of plants, basic design parameters of all units, quantity expected from population, application of package plants and application of septic tanks. Rules, regulations, forms and records. Three one-hour lectures and one three-hour laboratory period per week.

Prerequisite: EV5628

**EV5631 Environmental Laboratory Methods**

A one-semester course; two credit hours. Instruction and practice in skills essential to the development of proper laboratory technique. The course covers preparation of solutions, volumetric relationships, acid and base titrations and familiarization with laboratory equipment used in environmental analysis. One class hour and one two-hour laboratory period per week.

**EV5632 Codes, Contracts and Specifications**

A one-semester course; three credit hours. Basic principles and methods most significant in contract relationships; appreciation of the legal considerations in construction work; study of the National Building Code and local building codes, interpreting and outlining specifications. Three class hours per week.

**EV5635 Land Usage**

A one-semester course; three credit hours. This course will familiarize the students with the environmental factors involved in land resources allocation in wilderness, rural and urban areas. Systems techniques for determining environmental impact of proposed utilizations will be covered. Regenerative methods of resource exploitation will be covered with emphasis on aesthetic, safety and public health considerations. Three class hours per week.

**EV5637 Environmental Biology II**

A one-semester course; four credit hours. Methods and techniques for sampling aquatic environments for algae, attached plants, plankton and larger fauna will be stressed. Identification of the common indicator organisms and their relation to the chemical and physical nature of the environment will be included. Three one-hour lectures and one three-hour laboratory period per week.

Prerequisite: EV5627

**EV5640 Solid Waste Management**

A one-semester course; four credit hours. The course will acquaint the student with problems involved in solid waste management and disposal including domestic, industrial and radioactive waste materials. Estimation of volumes and disposal techniques including land-fills, incineration, chemical treatment and recycling will be covered. Associated environmental effects will be emphasized. Three class hours and three laboratory hours per week.

**FA7012 Introduction to the Creative Experience**

A one-semester course; three credit hours. This course is designed to introduce methods, materials and meaning of the arts to those who are involved in programs with the pre-school child. It is the way to explore the world through non-verbal experiences which are personal to each child. Emphasis is placed on spontaneity, imagination, invention and flexibility of each student. Three class hours per week.

**FA7081 Art as Experience and Idea I**

A one-semester course; three credit hours. Discussion and evaluation of visual works of art with special emphasis on painting. The class will deal with such questions as: What is Art? What is the role of Beauty in the definition of Art? How does one evaluate a work of Art? What is Creative Process? Who is the Creative Person? Three class hours per week.

**FA7082 Historical Survey of Visual Ideas**

A one-semester course; three credit hours. Discussion and evaluation of visual works of art from pre-history to present day. While the first semester dealt with general concepts of art as related to all works of art, this course will place emphasis on the unique contribution of individual cultures in the development of the western world. Three class hours per week.

Prerequisite: FA7081 or permission of the instructor.

**FA7083 Art Workshop: Painting, Drawing and Printmaking I**

A one-semester course; three credit hours. An introduction and exposure to various materials that have the potentiality for two-dimensional expression. Emphasis will be on the experiencing of new materials and the inherent properties that each of these materials have. All materials shall be provided by the student. There will be a total of five units, each exploring a different medium of expression. Three two-hour classes per week.

**FA7084 Art Workshop: Painting, Drawing and Printmaking II**

A one-semester course; three credit hours. An introduction to composition and structure in two dimensions. Emphasis will be placed on explorations into the relationship between FORM and SPACE on the flat surface. Having come to some understanding of the potentialities of various materials, this semester will focus on using those materials to create compositions that involve a more complex analysis of space and form. The various visual elements of position, size, shape, line, color density, texture and space will be analyzed as to their function in a particular composition. Three two-hour classes per week.

Prerequisite: FA7083

**FA7085 Art Workshop: Sculptural Forms I**

A one-semester course; three credit hours. An introduction and exposure to various materials that have the potentiality for three-dimensional expression. Emphasis will be on the experiencing of new materials and the inherent properties that each of these materials have. All materials shall be provided by the students except those used in the first unit. There will be a total of five units each exploring a different medium of expression. Three two-hour classes per week.

**FA7086 Art Workshop: Sculptural Forms II**

A one-semester course; three credit hours. Emphasis will be on explorations into the relationship between FORM and SPACE. Having come to some understanding of the potentials of various materials, this semester will focus on using these materials to create compositions that involve a more complex analysis of space and form. The student will keep a journal on responses to the materials and the problems. All materials shall be provided by the student. Three two-hour classes per week.

Prerequisite: FA7085

**FA7087 Art as Experience and Idea II**

A one-semester course; three credit hours. This course is a continuation of the materials presented in FA7081, Art as Experience and Idea I. It is built around the structure of both discussing art and actually making art so that the student becomes aware that the process and the product are an integrated experience. Three class hours per week.

Prerequisite: FA7081 or permission of the instructor.

**FA7999 Special Topics in Fine Arts**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**FI3652 Business Finance**

A one-semester course; three credit hours. Principles and practices of business finance. The short and long term sources of funds, management of financial assets, capital requirements, alternative forms of financing, and the capital market. Some use of case study method. Three class hours per week.

**FI6651 Principles of Insurance**

A one-semester course; three credit hours. Study of the principles of risk management and how insurance handles risk. The concept of risk management is outlined. Insurance coverages for the following are studied: property, liability, life and health. Three class hours per week.

**FI6653 Credits and Collections**

A one-semester course; three credit hours. Study of the credit function in business. Subjects covered include the credit risk, credit instruments, consumer credit, sources of credit information, retail credit and collection methods. Three class hours per week.

**FI6663 Principles of Real Estate**

A one-semester course; three credit hours. Survey of the various areas of real estate practice and the principles involved in the purchase, valuation, and selling of real estate. Three class hours per week.

**FR4401-FR4402 Introductory French I and II**

A two-semester course; three credit hours per semester. For students who have not completed two years of secondary school French or the equivalent as determined by the college. An introduction to the basic grammatical patterns of French. Speaking, reading and writing in the French language. Three class hours per week.

**FR4451-FR4452 Intermediate French I and II**

A two-semester course; three credit hours per semester. For students who have completed two or more years of secondary school French or the equivalent as determined by the college, or who complete FR4401 and FR4402 successfully. A continued study of FR4401 and FR4402 language skills, emphasizing the development of reading ability. Three class hours per week.

**FR4999 Special Topics in French**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's Office. Outlines for completed courses may be requested from the Registrar.

**FR8851 Masterpieces of French Literature**

A one-semester course; three credit hours. At least one representative work from each major literary period will be read in French. Three class hours per week.



**FS6601 Introduction to the Food Service Industry**

A one-semester course; four credit hours. An orientation to the food service industry, introduction to basic foods, equipment and tools; basic sanitation, safety, and personal hygiene; fundamentals of cooking, baking and stewardship. Primarily lectures, demonstrations and field trips. Eight class hours per week.

**FS6602 Food Service Operations I**

A one-semester course; four credit hours. Preparation and production of quantity foods including refrigeration, handling, storing and sanitation. Dining room procedures and management, purchasing, food costing, inventory control. Primarily a laboratory and food production approach. Eight class hours per week.

**FS6611 Food Service Operations II**

A one-semester course; four credit hours. Topics include menu planning and pricing, basic meats, fish and poultry, quantity control, merchandising and sales promotion, restaurant layout, equipment maintenance and repair. Primarily lectures and demonstrations. Eight class hours per week.

**FS6612 Food Service Operations III**

A one-semester course; four credit hours. Speciality foods, gourmet dishes, catering operations, food service operations, advanced quantity foods, preventative maintenance. Primarily a laboratory and food production approach. Eight class hours per week.

**FS6625 Food Service Management I**

A one-semester course; three credit hours. Management aspects of food service operations. Topics include selecting a location, selecting a clientele, food service equipment, training employees, food cost control and beverage control. Three class hours per week.

**FS6626 Food Service Management II**

A one-semester course; three credit hours. Forms of business organization, financial analysis, use of credit, insurance, restaurant accounting, financial records and the laws of innkeepers. Three class hours per week.

**GE9511 Principles of Geography**

A one-semester course; three credit hours. A systematic study of the earth's physical and social patterns. Types and uses of maps, the earth as a planet, the atmosphere, weather and climate, topography and its development, resources and economic activities. Three class hours per week.

**GE9512 World Regional Geography**

A one-semester course; three credit hours. Major world regions and political units. A survey of nations in terms of human activities and conditions as they are related to the earth's physical features. Natural and cultural environments of man are focussed on political units. Three class hours per week.

Prerequisite: GE9511

**GM4401-GM4402 Introductory German I and II**

A two-semester course; three credit hours per semester. For students who have not completed two years of secondary school German or the equivalent as determined by the college. Audiolingual emphasis. Introduction to grammatical patterns, reading and writing. Three class hours per week.

**GM4451-GM4452 Intermediate German I and II**

A two-semester course; three credit hours per semester. For students who have completed two or more years of secondary school German or the equivalent as determined by the college, or who have completed GE4401 and GE402. A continued study of the language emphasizing the development of reading ability. Three class hours per week.

**GM4999 Special Topics in German**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**GV3312 Introduction to Political Science**

A one-semester course; three credit hours. A descriptive survey of the general principles of politics. Emphasis is given to the development of politics in society, the major political traditions and ideologies, and comparative governmental systems including institutions, political organization and behavior, and a select range of government policies. Three class hours per week.

**GV3313 The Federal Government**

A one-semester course; three credit hours. The structure, functions, and procedures of the legislative, judicial, and administrative branches of the Federal Government will be analyzed within the context of the Constitution of the United States. Emphasis will be given to the structure and function of the various branches of government as well as their interrelationships and the effects of other factors on their functions. Three class hours per week.

**GV3314 State and Local Government**

A one-semester course; three credit hours. The structure, functions, politics, and problems of state and local government will be dealt with in an attempt to become aware of the functions and operations of state and local government. Special emphasis will be given to the identification and definition of problem areas in an attempt to better understand the issues involved as well as to deal with possible solutions. Three class hours per week.

**GV3315 Civil Rights and Liberties**

A one-semester course; three credit hours. Course deals with the role of individual rights and liberties in American society within the framework of the United States Constitution. The paradox of freedom is essentially the core around which lectures, discussion and research will be conducted. It is advisable to take this course after having completed a course in federal government. Three class hours per week.

**GV3323 Comparative Modern Government**

A one-semester course; three credit hours. Comparison and contrast of the spirit and structures of government in France, Great Britain, the Soviet Union, Germany. Three class hours per week.

Prerequisite: ,HI9901, HI9902, GV3313 and permission of the instructor.

**GV3999 Special Topics in Government**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**HI9901 Western Civilization I**

A one-semester course, three credit hours. A survey of the major historical developments and trends in Western Civilization from the Fall of Rome to 1715, with emphasis on the formation and evolution of the social, political, economic, and cultural institutions of medieval and early modern Europe. Three class hours per week.

**HI9902 Western Civilization II**

A one-semester course, three credit hours. A survey of the major historical developments and trends in Western Civilization from 1715 to the present, with emphasis on the evolution of social, political, economic, cultural institutions in modern Europe. Three class hours per week.

**HI9913-HI9914 U. S. History**

A two-semester course; three credit hours per semester. The United States since Colonial times. The development of the social, political and cultural institutions. Three class hours per week.

**HI9915 American Civilization**

A one-semester course; three credit hours. Survey of American History from early colonization to the present. The focus is on the major developments, concepts, and themes in the American past; e.g., emigration and immigration, the Constitution, industrialization, patterns of living, American dreams. Three class hours per week.

**HI9916 Recent U. S. History**

A one-semester course; three credit hours. Seminar on American history since World War II. Directed readings and emphasis on the major areas of recent national concern such as the "welfare state", foreign affairs, changes in American society, the "urban crisis" in the post-war years, etc. In addition, projects, the intent of which is to depict some perspectives on contemporary America, are assigned. Three class hours per week.

Prerequisite: U. S. History I and II and permission of the instructor.

**HI9951 19th Century Europe**

A one-semester course; three credit hours. An analysis of the major political, social, economic, ideological, intellectual and cultural movements of Western Europe from the time of the French Revolution up to the First World War. Three class hours per week.

**HI9952 20th Century Europe**

A one-semester course; three credit hours. An analysis of the major social, economic, political, ideological, intellectual and cultural trends of the 20th Century. Topics such as the search for collective security, revolutions, totalitarianism, the Cold War, the quest for European unity and Europe's relationship to the rest of the world will be explored. Three class hours per week.

**HI9953 Modern China and Japan**

A one-semester course; three credit hours. A survey of Chinese and Japanese history and related areas from around 1800 to the present. This course will begin by exploring the nature of traditional China and Japan on the eve of confrontation with the West, their contrasting response to Western power and ideas, and their attempts at reconciling traditional and modern ideas and institutions; it will then proceed to examine the emergence of nationalism in China and Japan, the triumph of revolution in China and the establishment of the People's Republic, and the growth of Japan into a modern industrial state. Three class hours per week.

**HI9955 Minority Groups in America**

A one-semester course; three credit hours. Seminar on the contributions and difficulties of religious, racial, ethnic and other minority groups in the pluralistic American society from colonial times to the present. Particular attention will be given to the following groups: Catholic and Jewish, American Indian, Negro and Puerto Rican, and southern European and Oriental. Students will research, write and present individual reports. Three class hours per week.

Prerequisite: HI9913, HI9914 and permission of the instructor

**HI9956 American Foreign Policy**

A one-semester course; three credit hours. A survey of United States foreign affairs from revolutionary times to the present. Special emphasis on America's emergence as a world power and her relationship with Europe, Latin America and the Far East. Attention will be paid to the developing roles of the President and the State Department, Congress and international organizations in our foreign policy. Three class hours per week.

**HI9958 History of the Soviet Union**

A one-semester course; three credit hours. Study of Russia since the overthrow of the Czar in March 1917. Special emphasis is placed on the origin of Russian Communism; the changing nature of Communism under Lenin, Stalin, Krushchev and Breshnev; Soviet foreign policy, especially since World War II. Three class hours per week.

**HI9999 Special Topics in History**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**HS2322 Human Services in the Community**

A one-semester course; two credit hours. An introduction to community agencies and services available to individuals with social, economic and mental problems. Emphasis will be placed on the role of these agencies as they relate to the field of human services. Two class hours per week.

**HS6601 Medical Terminology**

A one-semester course; three credit hours. Study of prefixes, suffixes; abbreviations; disease, operative and drug terms. Also included are terms related to all areas of medical, science and hospital service, and the para-medical specialties. Three class hours per week.

**HS6651 Introduction to Health Services**

A one-semester course; three credit hours. A survey course to provide the student with a comprehensive overview of the health care delivery system and its integration within the community. Some of the topics to be covered are: orientation to health professions; organizational patterns of health care; financing of health care; proposed state and federal legislation; and medico-legal standards. Field trips and guest lectures will be utilized. Three class hours per week.

**HU2000 Humanities: The Shape of Now**

A one-semester course; three credit hours. A study of the past in the present. An interdisciplinary focus on the behavior of Man, starting with a study of contemporary social/political, biological and spiritual/ethical attitudes. The course will consider the development of each up to the present. Sequence of topics: The Major Problems of Today; The Origin of Man; The Emergence of a Civilization. Format: a colloquium involving a natural scientist, a sociologist/anthropologist, a political scientist/historian and a fine arts/philosophy professor. Three class hours per week.



### **HU2001 The Year 2001: The Shape of the Future**

A one-semester course; three credit hours. Taught by a team of instructors in an interdisciplinary approach, the course relates the natural sciences, humanities and social sciences to the future possibilities for man. Students will also be involved in helping to construct a future utopia by designing that aspect of the utopia which interests him, thus enabling the student to interpret emerging values, attitudes and influences which are likely to shape future society. Three class hours per week.

### **\*HU3111 Humanities I**

A one-semester course; three credit hours. An interdisciplinary focus on man: cosmological, philosophical, biological, sociological, political and ecological. Sequence of topics: Man and the Cosmos, Biological Man, Man in Society, Man the Politician, Man and His Environment. Format: a colloquium involving a natural scientist, a social psychologist, and an historian-political scientist. Three class hours per week.

### **IT4401-IT4402 Introductory Italian I and II**

A two-semester course; three credit hours per semester. For students who have not completed two years of secondary school Italian or the equivalent as determined by the college. Audiolingual emphasis. Introduction to grammatical patterns, reading and writing. Three class hours per week.

### **IT4451-IT4452 Intermediate Italian I and II**

A two-semester course; three credit hours per semester. For students who have completed two or more years of secondary school Italian or the equivalent as determined by the college, or who have completed IT4401 and IT4402. A continued study of the language emphasizing the development of reading ability. Three class hours per week.

### **IT4999 Special Topics in Italian**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

### **\*\*LE3601 Criminal Law**

A one-semester course; three credit hours. The substantive law of crimes, including the general and the special parts of the criminal law. Emphasis is placed on analysis of the elements of particular crimes through case study. Three class hours per week.

### **\*\*LE3602 Law Enforcement Planning and Management**

A one-semester course; three credit hours. Consideration of police problems at the administrative level, including coordination of all branches of a police department. An evaluation of line, staff and auxiliary functions and the interrelationship of each. The purpose, need, and scope of planning in the police operation, including staffing, collection of data and use of data processing. Three class hours per week.

### **\*\*LE3603 Introduction to Criminal Justice**

A one-semester course; three credit hours. A survey of federal, state, county and local law enforcement agencies, their history, development and modern role within the field of criminal justice. Three class hours per week.

\*Course offered in the Discovery Program only.

\*\*Course offered in the Division of Continuing Education only.

**\*LE3604 Introduction to Criminology**

A one-semester course; three credit hours. A survey of the patterns and evolution of adult criminal and juvenile delinquent behavior analyzed in terms of various theories of such behavior; administration of criminal justice; police, law, courts (including juvenile courts) and prisons. Three class hours per week.

**\*LE3651 Police Operations**

A one-semester course; three credit hours. Organization and function of line operations in law enforcement including patrol, traffic, investigation, juvenile, vice and other specialized operations. Three class hours per week.

**\*LE3653 Criminal Investigation**

A one-semester course; three credit hours. An introduction to field investigation, including conduct at the crime scene, interview and interrogation of witnesses and suspects, the use of informants, and techniques of surveillance. Emphasis is placed on special investigative techniques and on the court procedure of the police case. Three class hours per week.

**\*LE3654 Criminal Procedure**

A one-semester course, three credit hours. The criminal process from investigation through arrest, indictment, trial and sentencing. Emphasis is placed on procedural matters especially affecting law enforcement such as arrest, search and seizure, interrogation, wiretapping, entrapment, and pre-trial publicity. Three class hours per week.

**\*LE3656 Introduction to Criminalistics**

A one-semester course; three credit hours. The organization, capabilities, and use of a criminalistics laboratory, including demonstrations of identification and comparison of evidentiary materials. Three class hours per week.

**LE3658 Organized Crime in the United States**

A one-semester course; three credit hours. The history of organized crime in the United States, delineating its effects on our society, the types of businesses it has penetrated and methods of combatting this serious problem. Three class hours per week.

**LS0121 Introduction to Library Services**

A one-semester course; three credit hours. This course will investigate the history of libraries, the role of the library in American society, the organizational structure of the library, media services available, different types of libraries. The course will attempt to familiarize students with the day to day functions of the library as well as with library resources, both print and non-print. Three class hours per week.

**LS0122 Library Reference and Research Methods**

A one-semester course; three credit hours. This course will study the basic tools of locating information in a library situation — basic reference sources indexes, government documents, etc. Instruction in how to do reference work and changing trends in reference work will be considered. Three class hours per week.

**LS0124 Introduction to Cataloguing and Classification**

This course will examine classification systems, cataloguing and filing rules, sources of printed catalog cards, and sources of cataloguing information. Emphasis will be placed on the use of sources of cataloguing information for the production of catalog cards. Three class hours per week.

\*Course offered in the Division of Continuing Education and Community Services only.

**LS0125 Library Administration**

A one-semester course; three credit hours. This course will consider the role of the Librarian as administrator in a public library situation. While concentration will be on the public library system, some emphasis will be given to the administration of the school library. The purposes and objectives of the library, library law, personnel, management operations, budget, the book collection (print and non-print), technical services, and the relationship of the library to the community will be discussed. Three class hours per week.

**LS0130 Creative Use and Production of Audio-Visual Media**

A one-semester course; three credit hours. Application of the systems approach to education in the selection, implementation and evaluation of various types of audio-visual media. Instruction in the design and production of overhead visuals, 8mm and 35mm photographic presentations, audio and video tapes, basic graphics and filmographic techniques. Development of skills in the operation and maintenance of equipment. Three class hours per week.

**LS0131 Audio-Visual Media Workshop (Lab)**

A one-semester course; one credit hour. Lab workshop giving instruction in the production and use of film, filmstrips, audio tapes, slides, etc. and in the operation and maintenance of hardware such as slide projectors, 16mm projectors, tape recorders, etc. One two-hour lab per week.

**LW6651 Business Law I**

A one-semester course; three credit hours. Introduction to law and its development. The law of contracts and its elements. The law of agency and its application to business. Three class hours per week.

**LW6652 Business Law II**

A one-semester course; three credit hours. A continuation of LW6651, developing a basic understanding and application of the Uniform Commercial Code involving negotiable instruments, sales, banking, partnerships, corporations, and estates and trusts. Three class hours per week.

Prerequisite: LW6651

**MA0500 Developmental Pre-school Mathematics**

A one-semester course; three credit hours. The course is designed to train the student to know what basic intuitive mathematical concepts are at the foundation of a pre-school child's mathematical development. He is further trained in how to enhance and encourage these concepts in unstructured and informal ways. He is shown how to observe the child's activities for opportunities to strengthen the child's intuitive mathematical base. He is further given a fund of activities for the child which usually lead to opportunities for reinforcing the child's intuitive mathematical background. Three class hours per week.

**\*MA0501 Developmental Mathematics**

A one-semester course; three credit hours. A review of arithmetic and an introduction to algebra, including formula evaluation, linear and quadratic equations, graphs, set theory, etc. This course does not satisfy any of the degree requirements for the associate degree in liberal arts. Five class hours per week.

**MA5501 Pre-college Mathematics**

A one-semester course; no credit hours. Especially designed to fulfill prerequisites for MA5520. Sets. Sets of numbers. Properties of a field. Solution and graphing of equations and inequalities in one and two variables. Compound statements. Three class hours per week.

\*Course offered in Discovery Program only

**MA5506 Statistics**

A one-semester course; three credit hours. Set theory approach to probability. Descriptive statistics. Probability distributions. Sampling inferences from statistics. Hypothesis testing. Linear regression and correlation. Three class hours per week.

Prerequisite: MA5520

**MA5508 Elementary Functions**

A one-semester course; three credit hours. Set theory approach to polynomial, rational, algebraic, exponential, logarithmic and trigonometric functions. Analytic geometry. Three class hours per week.

Prerequisite: MA5520

**MA5511 Survey of Basic Mathematics**

A one-semester course; three credit hours. The course provides a review of mathematical fundamentals through an examination of basic number systems and algebra. An introduction to statistical techniques is presented from a practical viewpoint. Emphasis is placed on problem solving. This course does not satisfy any of the degree requirements for the associate degree in Liberal Arts. Three class hours per week.

**MA5512 Contemporary Mathematics for Elementary Teachers**

A one-semester course; three credit hours. An introductory course designed to help students to understand the ideas behind the mathematics needed to be successful teachers in elementary education. Course deals with, and illustrates, the interaction between the arithmetic and geometric aspects, and deals with the broad range of computational schemes currently used in elementary mathematical education. (MA5520 is recommended as a prerequisite.) Three class hours per week.

**MA5520 Liberal Arts Mathematics I**

A one-semester course; three credit hours. The course is designed to develop an appreciation of the nature of mathematics. This will be done by exploring some of the significant and surprising mathematical concepts that are part of man's cultural heritage and discovering the correlation between mathematics and other areas of study. The student will participate in the creation of mathematics through the study of topics such as mathematical logic, set theory and other mathematical systems, developing an understanding of the importance of mathematics to the world today. (Credit may be received for either MA5520 or MA5521, but not both). Three class hours per week.

**MA5520 Liberal Arts Mathematics I (Review Option)**

A one-semester course; three credit hours. The course is fundamentally the same as Liberal Arts Mathematics I, with considerable emphasis placed upon examining the mathematical properties and operations of the basic number systems and elementary algebra. In this way the student can refresh his background while at the same time completing the requirements for Liberal Arts Mathematics I. (Credit may be received for either MA5520 or MA5521, but not both). Five class hours per week.

**MA5521 Liberal Arts Mathematics I (Algebra Option)**

A one-semester course; three credit hours. This course is designed primarily for students pursuing a career in any field requiring further preparation in mathematics. After an introduction to logic and set theory, a detailed examination of algebraic fundamentals is presented as a preparation for Elementary Functions. (Credit may be received for either MA5520 or MA5521, but not both). Three class hours per week.



**MA5525 Liberal Arts Mathematics II**

A one-semester course; three credit hours. The objectives are similar to those of Liberal Arts Mathematics I. Liberal Arts Mathematics II is designed to allow the student to explore some of the interesting and useful aspects of mathematics. The instructor will choose topics from a wide variety of areas such as probability, statistics, topology, fourth dimension, philosophy of mathematics and computer programming. Three class hours per week.

Prerequisite: MA5520 or MA5521

**MA5531 Calculus I (Liberal Arts)**

A one-semester course; four credit hours. The integral and derivative. Differential calculus of polynomial, rational, exponential, logarithmic and trigonometric functions, with an emphasis on problem solving; antiderivatives. Four class hours per week.

**MA5532 Calculus II (Liberal Arts)**

A one-semester course; four credit hours. Differential functions, chain rule, methods of integration, implicit and inverse functions. Limits, applications of integration to problem solving. Volume, theory of curves. Four class hours per week.

Prerequisite: MA5531 or equivalent

**MA5333 Introduction to Statistics**

A one-semester course; three credit hours. Emphasis on the role of statistics in the application of the scientific method. Descriptive statistics and statistical inference. Variation, central tendency and dispersion. Finite sample space. Random variable. Inference. Linear regression and correlation. **REQUIRED FOR ALL STUDENTS IN THE COMPUTER TECHNOLOGY PROGRAM.** Three class hours per week.

Prerequisite: MA5621 or MA5611 and MA5612

**MA5601 Basic Scientific Computation**

A one-semester course; one credit hour. Use of the slide rule, use of mathematical tables and use of scientific notation of numbers will be covered. Numerical techniques will be applied to solution of problems of proportion, dilution and measurement. Dimensional equations will be covered. One two-hour class meeting per week.

**MA5611-MA5612 Finite Mathematical Models I and II**

A two-semester course; three credit hours per semester. Topics include: logic, set theory, vectors and matrices, probability, Markov chains, linear programming, game theory, non-linear functions, iteration and approximation methods, and monte carlo methods. Three class hours per week.

**MA5613 Mathematics of Finance**

A one-semester course; three credit hours. The mathematics used in business transactions. Three class hours per week.

**MA5621 Algebra and Trigonometry**

A one-semester course; four credit hours. For students enrolled in a technology curriculum. A complete review of algebra. Introduction to trigonometry. Three class hours and two one-hour problem-solving sessions per week.

**MA5622 Advanced Algebra and Trigonometry**

A one-semester course; four credit hours. For students enrolled in a technology curriculum. Emphasis on the use of algebra, trigonometry and graphics in the solution of technical problems. An introduction to the concepts of rate of change and summation of areas. Three class hours and two one-hour problem-solving sessions per week.

Prerequisite: MA5621

**MA5641 Mathematics of Business**

A one-semester course; three credit hours. A study of the mathematics of percentage, interest, discounts, depreciation, insurance, payroll, and statistical averages. Three class hours per week.

**MA5651 Advanced Technical Mathematics I**

A one-semester course; four credit hours. For students enrolled in a technology curriculum. The course covers basic analytical geometry, differentiation, integration, and the mathematics of transcendental functions, with applications to maximum-minimum, related rates, acceleration, area, volume, and curve sketching problems. Four class hours per week.

Prerequisite: MA5622

**MA5652 Advanced Technical Mathematics II**

A one-semester course; three credit hours. For students enrolled in a technology curriculum. The course covers the calculus of trigonometric, exponential, logarithmic, hyperbolic, and inverse functions. The course also covers power series expansion, and special integration techniques including integration by parts, trigonometric substitution, partial fraction expansion, etc. Three class hours per week.

Prerequisite: MA5651 or equivalent

**MA5661 Advanced Trigonometry and Analytic Geometry**

A one-semester course; four credit hours. Review of the fundamentals of algebra and trigonometry. Introduction to advanced algebraic concepts, trigonometric identities, basic statistics, complex variables, analytic geometry and the basic forms of differentiation and integration. Three class hours and one two-hour problem-solving session per week.

**MA5671 Business Statistics**

A one-semester course; three credit hours. The use of statistical methods in the management of business. Three class hours per week.

**MA5683 Calculus I**

A one-semester course; four credit hours. The fundamental ideas and applications of both differential and integral calculus. Differentiation and integration of polynomials, algebraic functions and transcendental functions. Maxima, minima, concavity and curve tracing. Areas and volumes by integration; related rates. Four class hours per week.

Prerequisite: MA5661

**MA5684 Calculus II**

A one-semester course; four credit hours. The calculus of scalar and vector products, solid analytical geometry, partial derivatives, series expansions, deMoivre's Theorem, L'Hospital's Rule, etc. Four class hours per week.

Prerequisite: MA5683

**MA5685 Differential Equations**

A one-semester course; four credit hours. Fundamentals of ordinary linear differential equations, LaPlace Transforms, numerical methods of solutions, etc. Four class hours per week.

Prerequisite: MA5684

**MA5999 Special Topics in Mathematics**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**MG6651 Industrial Management**

A one-semester course; three credit hours. Overview of manufacturing operations. All aspects of the production function are discussed: capital investment, assembly-line operation, plant location, product design, time study, purchasing and other topics. Three class hours per week.

**MG6652 Time and Motion Study**

A one-semester course; three credit hours. The course deals with the application of methods improvement and work measurement techniques. The use of the stop watch, work sampling and operations charts in terms of application to standard systems. Three class hours per week.

**MG6653 Industrial Purchasing**

A one-semester course; three credit hours. The course provides a comprehensive knowledge of modern purchasing practices. It combines analysis of the fundamental purchasing principles with analytical descriptions of the latest developments and techniques. The fundamentals of the buying process are related to the new expanded role of the purchasing department. The student is given the opportunity to test his understanding of what has been covered by the inclusion of case problems drawn from contemporary industry. Three class hours per week.

**MG6676 Personnel Management**

A one-semester course; three credit hours. Principles and human relations problems involved in the administration of personnel. Topics include job analysis and specification, recruitment, selection and training, job evaluation, supervision of employees, and salary and wage administration and labor relations. Three class hours per week.

**MH2111 Introduction to Mental Health**

A one-semester course; three credit hours. An introduction to the history of psychiatry, current trends in mental health and mental retardation, the mental health team, prevention of mental illness, and the role of the mental health technician. Consideration will be given to the diagnostic evaluation, establishing contact with patients and families, and techniques of interviewing. Three class hours per week.

**MH2133 Observation and Recording of Mental Health Programs**

A one-semester course; one credit hour. A preliminary investigation of programs in mental health, in varied institutional settings. Defined areas of mental health will be observed and recorded. These observations will be discussed in seminars held throughout the semester. Four practicum hours per week.

**MH2134 Mental Health Practicum I**

A one-semester course; three credit hours. A rotating practicum in selected community psychiatric facilities, social agencies, and school settings. Under supervision, students will give services to patients individually or in groups and have opportunity to follow up patients in the home and community. Twelve practicum hours per week.

**MA2143 Mental Health Practicum II**

A one-semester course; three credit hours. A continuation of Practicum I, but with a greater involvement in patient care. Twelve practicum hours per week.

**MH2144 Mental Health Practicum III**

A one-semester course; three credit hours. A continuation of Practicum II, with a more intensive involvement in a mental health facility. Twelve practicum hours per week.



**MH2147 Group Dynamics**

A one-semester course; three credit hours. Course aims to help students to realize their potential for growth more fully, and increase their ability to work effectively with others in a variety of situations. Students will learn how groups work and how individuals function within groups by forming a group for this purpose. Phases of group development, communication and group performance are experienced and discussed. Three class hours per week.

Prerequisite: PS1101 or SO3321 or PS1351

**MH2155 Modalities of Treatment**

A one-semester course, three credit hours. The management of special problems with adults and children will become the central focus of this course. The course will explore various systems of personality and the application of these systems to practice; individual therapy; group therapy, family therapy; behavior modification and chemotherapy. Special emphasis will be given to the role of the mental health technician in treatment. Three class hours per week.

**MH2166 Seminar in Mental Health**

A one-semester course; three credit hours. This seminar course allows for group discussion of theoretical and practical approaches to patient/client care. Analysis of practicum experiences; preparation for service in various agencies; and graduate's identity as a mental health technician. Three class hours per week.

**MK6678 Principles of Marketing**

A one-semester course; three credit hours. Introduction to marketing with emphasis placed on the basic functions and the channels of distribution. The consumer, the market area, and the problems and policies of pricing the product. Three class hours per week.

**MK6679 Advertising**

A one-semester course; three credit hours. Analysis of buying motives and the development of various advertising appeals. Planning, budgeting and testing of phases of the program and the several advertising media. Three class hours per week.

**MK6680 Retailing**

A one-semester course; three credit hours. Basic elements of retail merchandising. Types and organization of retail outlets. Buying, pricing, dollar and unit stock control, sales promotion, and expense budgets. Three class hours per week.

**MK6681 Salesmanship**

A one-semester course; three credit hours. Fundamentals of salesmanship by studying the behavioral aspects of the persuasion process; a systematic approach to selling which the student can use to develop the techniques which fit his own personality and particular situation. Three class hours per week.

**MR6601 Medical Record Science I**

A one-semester course; three credit hours. A brief study of the history of medical records, hospitals, and medicine. An analysis is made of professional ethics, and personal conduct required of medical record personnel. Study is also made of the uses and value of the medical record, and responsibility for the component parts of the medical record, quantitative and qualitative analysis of records, and methods and techniques to facilitate completion of records. The importance of medical record personnel as members of the health-care team is emphasized. Two class hours and one two-hour laboratory period per week.



**MR6602 Medical Record Science II**

A one-semester course; three credit hours. Deals with the study of basic principles of compiling statistics for hospitals and other medical facilities. Preparation of reports includes the daily census; analysis of hospital services; monthly, annual and special reports. Methods for recording vital statistics are included. Basic principles in the classification of diseases and operations according to the Standard Nomenclature of Diseases and Operations and the International Classification of Diseases, Adapted. Also included are methods of maintaining the physicians' index; birth, death and emergency registers; and the special types of disease registers. The techniques of assisting medical staff in research projects are included. Two class hours and one two-hour laboratory period per week.

**MR6605 Medical Terminology I**

A one-semester course; two credit hours. A study of prefixes, suffixes, abbreviations, disease, operative, and drug terms. Terms will be taught by anatomical system with medical science lectures included. Two class hours per week.

**MR6606 Medical Terminology II**

A one-semester course; two credit hours. A continuation of Medical Terminology I. Two class hours per week.

Prerequisite: MR6605

**MR6651 Medical Record Science III**

A one-semester course; three credit hours. Course includes the study of principles of law as related to patient care and medical records; study of medical staff structure within the hospital; study of health accrediting agencies; and the study and practice of medical transcription. Two class hours and one two-hour laboratory period per week.

**MR6653 Medical Record Science IV**

A one-semester course; two credit hours. Study of medical and medico statistical information kept in health agencies other than the general hospital with emphasis on record keeping systems. This would include, ambulatory care facilities, long term care facilities, health insurance and governmental agencies. Two class hours per week.

Prerequisites: MR6602 Medical Record Science II, MR6651 Medical Record Science III

**MR6661 Transcription I (Medical Record)**

A one-semester course; one credit hour. Directed practice experience in typing dictated discharge summaries, operative reports, and history and physical examinations. Sixty class hours per semester.

Prerequisite: HS6601

**MR6662 Transcription II (Medical Record)**

A one-semester course; one credit hour. Directed practice experience in typing dictated discharge summaries, operative reports, and history and physical examinations. Sixty class hours per semester.

Prerequisite: MR6661

**MR6667 Directed Practice I (Medical Record)**

A one-semester course; four credit hours. Supervised practice in a community hospital affiliated with the Medical Record department. Students participate in all phases of medical record systems, and become fully acquainted with the required procedures of a local hospital. Comparison of systems is provided by class field trips to other cooperating hospitals. Two hospital working days per week.

Prerequisite: MR6601 and MR6602

**MR6668 Directed Practice II (Medical Record)**

A one-semester course; three credit hours. Supervised practice in health information systems of extended care facilities, psychiatric facilities, ambulatory care facilities and in related health care industries. One and one-half working days per week.

Prerequisite: MR6667

**MU7091 Introduction to Music**

A one-semester course; three credit hours. Music of European, American and non-Western cultures from classical to rock will be studied. Exposure to various styles and forms of music, expansion of listening perception and knowledge of the materials and sociological aspects of music. Three class hours per week.

**MU7093 Twentieth Century Music**

A one-semester course; three credit hours. Trends in contemporary music beginning with Debussy and including electronic and other avant-garde music, music for theatre and film, and related social and political trends of this century. Three class hours per week.

**MU7095 Introduction to Applied Music: Skills and Professions**

A one-semester course; three credit hours. The course is designed for the student interested in finding out whether he would like a career in or associated with music, regardless of any musical background. Exploration of performance, improvisation, composition, instrument construction and maintenance, education, therapy, publishing, business and other professional areas. Development of marketable skills. Guest speakers and field trips. Three class hours per week.

**MU7097 Performance Ensemble**

A one-semester course; three credit hours. Ensembles in Rock, Folk, Jazz and Classical Music — organized for the purpose of acquiring knowledge and experience in performance. Students enrolling should be capable of performing on a musical instrument or as a singer. One lecture hour discussion; two two-hour labs per week.

**MU7099 Special Topics in Music**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**NH6613 Principles of Nursing Home Administration I**

A one-semester course; four credit hours. Orientation to the general administration of nursing homes. Study of departmental organization and management. Analysis of community resources and interrelationships. Survey of local, state and federal health and safety regulations and standards of environmental health and safety. Classes are conducted in a local nursing home affiliate. Four class hours per week.

**NH6614 Principles of Nursing Home Administration II**

A one-semester course; four credit hours. Study of the psychology of patient care, principles of medical care, therapeutic and supportive services in long-term care of nursing home patients. Discussion of the personal and social care of the elderly. Classes are conducted in a local nursing home affiliate. Four class hours per week.

Prerequisite: NH6613

**NH6622 Food Services and Nutrition**

A one-semester course; three credit hours. Survey of food quality and services. Study of adequate facilities and equipment for the proper storage, preparation and serving of food for residents and employees. Familiarity with dietary needs of both groups, and understanding of garbage disposal facilities and procedures. Three class hours per week.

**NH6651 Principles of Activity Coordination in Nursing Homes**

A one-semester course; three credit hours. This course is designed to provide training in the planning and implementing of meaningful patient activities in extended care facilities, including recreational, spiritual, educational and work-oriented activities. Four class hours per week.

**NH6652 Medico-Legal Standards**

A one-semester course; three credit hours. Study of the rules and regulations administered by the State Department of Public Health. Survey of the state and federal requirements in terms of liability and responsibility of nursing homes relative to patients and employees.

**NH6671 Internship in Nursing Home Administration**

A one-semester course; nine credit hours. Practicum supervised by licensed nursing home administrator in clinical facility. Opportunity to observe all phases of nursing home clinical practice. Special instruction and practice in nursing home plant management. Additional lectures by visiting professors of allied health services. Sixteen clinical hours per week.

**NH6672 Advanced Internship in Nursing Home Administration**

A one-semester course; nine credit hours. Advanced practicum supervised by licensed nursing home administrator. Experience in departmental structure of clinical facility. Special attention given to nursing home plant planning and instruction in medical records management and medico-legal standards. Sixteen clinical hours per week.

Prerequisite: NH6671

**NH6682 Principles of Nursing Home Finance**

A one-semester course; three credit hours. Study of health care economics pertaining to specific aspects of health care, the costs and expenditures involved, health prepayments, insurance programs, the impact of social and economic factors on the financial structure of the nursing home.

**NH6684 Principles of Medical Records**

A one-semester course; three credit hours. Study of medical history records, report preparation, coding, indexing procedures, ethics, methods of securing and preserving medical records, and medical record practices and procedures. Three class hours per week.

**NS6601 Nursing I — Fundamentals of Nursing**

A one-semester course; eight credit hours. This course is designed to help the student to develop first an understanding of normal health needs and the basic concepts and skills necessary to render safe and effective bed-side nursing care. Basic mental health concepts and communication skills, nutrition, pharmacology, and the preventive aspect of rehabilitation are introduced. Four class hours and twelve hospital practice hours per week.

**NS6602, Nursing II — Maternal and Child Health Nursing**

A one-semester course; eight credit hours. This course provides a study of the knowledge, skills and attitudes necessary to afford effective care of patients throughout the maternity cycle, the newborn infant and the child from infancy through adolescence. Opportunity is offered to study the psychological development of the child concurrently with the normal physical growth and development. This combination provides an understanding of the total child when he is ill and when he is well. Diet therapy and pharmacology are integrated throughout. Public health and the therapeutic aspect of rehabilitation are introduced. Four class hours and twelve hospital practice hours per week.

Prerequisite: NS6601

**NS6651-NS6652 Mental and Physical Illness I and II**

A two-semester course; eight and ten credit hours. This course emphasizes the principles and practice of comprehensive nursing care in relation to current major health problems. Emphasis is placed on the biophysical pathology in relation to the nursing care needs and emotional reactions of the individual patient. Stress is placed on the promotion of mental health and the prevention of mental illness. Principles of rehabilitation, nutrition and pharmacology are stressed throughout. Concurrent laboratory experiences provide opportunity for students to investigate complex nursing care problems.

Prerequisite: NS6602

**NS6682 Seminar on Nursing**

A one-semester course; three credit hours. Course is designed to provide students with an appreciation of the historical development of nursing, the present and future trends in nursing education and practice, and the role of nursing organizations. Opportunities for, as well as problems and responsibilities of, the registered nurse are discussed. Three class hours per week.

Prerequisite: NS6601

**NS6692 Leadership Skills in Nursing**

A one-semester course; three credit hours. A course for graduate or registered nurses based upon current trends in the nursing management of patient care. A sound theoretical framework will be developed utilizing interpersonal and group dynamic principles. Nursing application will be made in a variety of clinical situations. Three class hours per week.

**NS6695 Legal Aspects of Nursing Practice**

A one-semester course; three credit hours. This course will encompass licensure, regulation of professional conduct, relationship to patients, negligence, malpractice, and compensation and liability for acts concerned with negligence. Content is directed to the practice of professional nursing in relation to the law. Emphasis will be placed on nurses' liability in the exercise of professional functions. Three class hours per week.

**PE1001 Adapted Physical Education**

A one-semester course; two credit hours. This course is geared to meet the specific needs of students who have medical problems in weight control, physical handicaps. Special emphasis on individualized programs of exercise, posture control and corrective exercise. Four class hours per week.

**PE1002 Archery**

A half-semester course; one credit hour. Basic skills and techniques, cost, care and maintenance of equipment. Interclass competitive shooting. Field trips for practical hunting experience. Four class hours per week.

**PE1003 Backpacking**

A half-semester course; one credit hour. A course designed to acquaint the student with the recreational and fitness benefits of backpacking. The importance of the selection and maintenance of equipment will be discussed. What to wear, where to go, what to pack, etc. Trips and hikes with the Outing Club will acquaint the student with local places to hike. Four class hours per week.

**PE1004 Badminton**

A half-semester course; one credit hour. Basic strokes (grip, stance, form), rules of the game, care and selection of equipment. Class tournament arranged. Four class hours per week.

**PE1005 Basketball**

A half-semester course; one credit hour. Basic knowledge, techniques and the practice of fundamentals. Four class hours per week.



**PE1006 Bowling**

A half-semester course; one credit hour. The fundamentals of ten pin bowling. Class will be held off campus. Arrangements will be made for transportation. Students pay a nominal charge for each game bowled. Four class hours per week.

**PE1007 Outdoor Survival Skills**

A half-semester course; one credit hour. Instruction in basic campcraft skills, firebuilding, outdoor cooking, lashing, temporary shelters, toolcraft (knife, hatchet, etc.) and an underlying emphasis on conservation and preservation of land, water and wildlife. Four class hours per week.

**PE1008 Canoeing**

A half-semester course; one credit hour. Basic instruction for bow and stern, paddling, canoe safety and canoe tripping. Four class hours per week.

**PE1009 Fencing I**

A one-semester course; two credit hours. A basic course in the art of French foil fencing; fundamental attacks, defense and bouting strategy will be included. Four class hours per week.

**PE1010 Field Hockey**

A half-semester course; one credit hour. Designed for those students interested in team sports. Basic instruction will include the fundamental skills and team play. Four class hours per week.

**PE1011 Fly Fishing and Spin Casting**

A half-semester course; one credit hour. Cost, selection and care of various types of fishing equipment. Fundamental skills and techniques. Students will be taken off campus for practical application of skills acquired. Four class hours per week.

**PE1012 Folk and Square Dancing**

A half-semester course; one credit hour. Broad range of elementary folk dance including dances from other countries. Four class hours per week.

**PE1013 Fundamentals of Movement**

A half-semester course; one credit hour. Concepts of the basic principles and practices of body movement. Body development, exercises and posture are emphasized. Four class hours per week.

**PE1014 Golf**

A half-semester course; one credit hour. The fundamentals of golf: grip, stance, rules, swing and etiquette. Practice will be given with long and short irons, drives and putters. Four class hours per week.

**PE1015 ,Golf — Intermediate**

A half-semester course; one credit hour. Designed for students seeking further skill and knowledge beyond the beginning level. The majority of instruction will be held on the golf course. Four class hours per week.

**PE1016 Gymnastics**

A half-semester course; one credit hour. Develops performance ability in the execution of elementary apparatus and tumbling. Develops skill in the use of safety procedures. Four class hours per week.

**PE1017 Karate**

A one-semester course; two credit hours. A progressive program of instruction. Designed for the student seeking skill, knowledge and a philosophy of this oriental sport. There is no contact; but a series of precise exercises leading to proficiency of technique. Four class hours per week.

**PE1018 Modern Dance**

A half-semester course; one credit hour. A study of the fundamentals of modern dance techniques and personalities contributing to the development of dance in America. Four class hours per week.

**PE1019 Physical Conditioning**

A one-semester course; two credit hours. A progressive, individualized program of skills and activities designed to improve both muscular and cardiovascular endurance, including jogging, exercise and weight. Four class hours per week.

**PE1020 Self Defense**

A half-semester course; one credit hour. Instruction and practice in the art of self defense. Strategy, skill and physical conditioning and valuable skills that can be used in emergency situations. Four class hours per week.

**PE1021 Senior Life Saving**

A one-semester course; two credit hours. Standard Red Cross senior life saving certificate issued upon completion of the course. Four class hours per week.

Prerequisite: PE1026 or equivalent

**PE1022 Scuba Diving**

A one-semester course; two credit hours. Basic scuba diving skills for the advanced swimmer, and acquaintance with the importance of careful selection and maintenance of equipment. Classes are held off campus. Successful completion of the course will lead to national certification as well as an opportunity for advanced training. Four class hours per week.

Prerequisite: PE1026 or equivalent

**PE1023 Slimnastics**

A half-semester course; one credit hour. Fundamentals of movement and weight control. Exercise routines are adjusted to meet individual needs and executed to contemporary music. Four class hours per week.

**PE1024 Soccer**

A half-semester course; one credit hour. Basic skills in heading, dribbling and shooting as well as strategy and rules of the game. Interclass competitions. Four class hours per week.

**PE1025 Softball**

A half-semester course; one credit hour. Basic skills and techniques of softball including rules, strategy and safety. Interclass competition stressing team play and playing courtesies. Four class hours per week.

**PE1026 Swimming**

A half-semester course; one credit hour. Fundamentals of elementary and intermediate swimming and diving with emphasis on individual achievement and water safety. Four class hours per week.

**PE1027 Tennis I**

A half-semester course; one credit hour. Fundamentals including grip, forehand and backhand drives, serve, etc. plus rules of the game, strategy, care and selection of equipment. Four class hours per week.

**PE1028 Tennis II**

A half-semester course; one credit hour. Instruction and practice in advanced techniques and skills to attain proficiency. Students must meet minimum requirements during the first week of class in order to remain in the course. Four class hours per week.

**PE1029 Volleyball**

A half-semester course; one credit hour. Basic knowledge of the rules, regulations, techniques, fundamentals, skills and their application in game situations. Four class hours per week.

**PE1030 Water Safety Instruction**

A one-semester course; two credit hours. Methods of teaching swimming and life saving technique. Successful completion results in certification (WSI). Classes are held off campus. Four class hours per week.

**PE1031 Weight Training**

A half-semester course; one credit hour. Basic principles and skills of weight training. Emphasis on the cardiovascular and flexibility activities. Four class hours per week.

**PE1032 Wrestling**

A half-semester course; one credit hour. Basic skills, techniques and strategies of wrestling. Designed to improve both muscular and cardiovascular endurance, as well as improve ability in various wrestling techniques. Four class hours per week.

**PE1033 Handball/Paddleball**

A half-semester course; one credit hour. This is an introductory course to include rules and regulations, terminology and the basic strokes, footwork, serves and strategy. Four class hours per week.

**PE1034 Winter Camping and Hiking**

A half-semester course; one credit hour. A course designed to acquaint the student with the recreational and fitness benefits of camping and hiking during the winter months. Course includes: description of cold weather clothing and equipment, orienteering, foods, snowshoeing, cross-country skiing, winter first aid, day hikes and overnight campouts. Four class hours per week.

**PE1035 Trampolining I**

A half-semester course; one credit hour. An introduction to the basic skills including bounces, drops (seat, front, back), simple turns and twists, including the turntable and swivel hips. Safety factors are stressed. Four class hours per week.

**PE1036 Trampolining II**

A half-semester course; one credit hour. An advanced course including aerial stunts, along with proper spotting techniques and other safety factors. Four class hours per week.

Prerequisite: PE1035 or equivalent

**PE1038 Cross-Country Skiing**

A half-semester course; one credit hour. This course will include the skills and conditioning necessary to participate in this challenging outdoor event. Class time will be spent participating on a cross-country course when possible, and will include care of equipment and adapting to nature. Four class hours per week.

**PE1039 Mountain Climbing/Rock Climbing**

A half-semester course; one credit hour. This fundamental course will include basic techniques: belaying, rapelling, ascents, descents, the proper use of personal climbing equipment and safety considerations. Most classes will be held outdoors. Four class hours per week.

**PE1040 Ballet**

A half-semester course; one credit hour. This is a beginning course covering dance conditioning, the five positions, basic steps and choreography. Also highlighted will be the appreciation and knowledge of this most graceful of art forms. Four class hours per week.

**PE1041 Yoga**

A one-semester course; two credit hours. This is a course in self-realization covering Hatha exercises and breathing, nutrition, relaxation, chanting, meditation and Vedic philosophy. Classes will consist of practice and discussion aimed at improving life through incorporating the wisdom of this timeless discipline. Four class hours per week.

**PE1042 Jogging**

A half-semester course; one credit hour. This course will elaborate on one of the most simple but effective forms of conditioning. Class time will cover how to warm up, train and pace yourself so as to enjoy the pleasant overall exhilaration this activity promotes. Four class hours per week.

**PE1043 Ethnic Dancing**

A half-semester course; one credit hour. It is designed to acquaint a person with the expressive movement patterns of various cultures throughout the world. Along with the dances of Europe, the class will include Russian Folk Dance, Belly Dancing, Indian Dancing and dances of the Orient and Polynesia. Four class hours per week.

**PE1044 Cycling**

A half-semester course; one credit hour. This course will cover body conditioning, care of the bicycle and knowledge necessary to enjoy this fast-growing sport. Time will be spent in touring and following pre-mapped itineraries. Four class hours per week.

**PE1045 Snow Shoeing**

A half-semester course; one credit hour. This course will explore the history, selection and care of snowshoes and other equipment and clothing. Fundamentals will include traversing, edging, trail breaking and winter safety considerations. Four class hours per week.

**PE1046 Judo**

A half-semester course; one credit hour. This course is an introduction to the game, its history, safety considerations, and the basic skills including falling, throwing, mat grappling and armlock techniques. Four class hours per week.

**PE1047 Sailing**

A half-semester course; one credit hour. An introduction to sailing, including basic maneuvers and handling, nomenclature, equipment, weather and water consideration, and safety rules and regulations. Four class hours per week.

**PE1048 Orienteering**

A half-semester course; one credit hour. An understanding of different types of maps and the compass. Exercises using both tools together and each of them alone will orient the person to exploring the out-of-doors. Four class hours per week.



**\*PE2002 First Aid and Safety**

A one-semester course; three credit hours. This course is formulated according to standards set forth by the American Red Cross. Students completing the course will be certified by the Red Cross in both standard and advanced courses. The course is designed to give the student a basic understanding of first aid and emergency procedure. Three class hours per week.

**\*PE2293 Physical Education and Recreation Activities**

A one-semester course; one credit hour. Study of and participation in games and exercises designed to increase motor ability and group interaction of the young child. Two class hours per week.

**PE9999 Special Topics in Physical Education, Recreation, Outdoor Activities**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's Office. Outlines for completed courses may be requested from the Registrar.

**PH1101 Introduction to Philosophy I**

A one-semester course; three credit hours. The aims, nature and problems of philosophy, with particular emphasis upon theory of knowledge, metaphysics, ethics and philosophy of religion. Three class hours per week.

**PH1102 Introduction to Philosophy II**

A one-semester course; three credit hours. A critical analysis of the philosophic issues concerning the nature of men, freedom and determinism, esthetics, social and political philosophy and philosophy of history. Three class hours per week.

**PH1151 Introduction to Logic**

A one-semester course; three credit hours. Course will inquire into the nature of critical thinking. Such topics as the functions of language, experimental truth and logical validity, the structure of deductive arguments, and basic inductive methods will be considered. Three class hours per week.

**PH1999 Special Topics in Philosophy**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**PI5501 General Physics I**

A one-semester course; four credit hours. Intended for liberal arts students and some science majors. The course will examine the elements of mechanics, sound, heat, electricity, magnetism and light. Plane trigonometry and algebra will be used. Three class hours and one three-hour laboratory period per week.

Prerequisite: One year of college mathematics

**PI5502 General Physics II**

A one-semester course; four credit hours. Intended for liberal arts students and some science majors. The course will examine the elements of mechanics, sound, heat, electricity, magnetism and light. Plane trigonometry and algebra will be used. Three class hours and one three-hour laboratory period per week.

Prerequisite: PI5501

\*This course is designed to fill the requirements of a particular program. Enrollment is open to all students, but only after the enrollment needs of the program for which it is designed are met.

**PI5503 Introductory Physics I**

A one-semester course; four credit hours. This course is designed to cover concepts in physics which are necessary for a basic understanding of our twentieth century physical world. The treatment will be largely non-mathematical and will cover topics such as relative motion, mass energy relations and atomic structure. Three class hours and one three-hour laboratory period per week.

**PI5504 Introductory Physics II**

A one-semester course; four credit hours. A continuation of PI5503 with the same objectives, but focussed upon other interesting topics such as heat, light and radiation. Three class hours and one three-hour laboratory period per week.

Prerequisite: PI5503

**PI5510 Physics for Respiratory Therapists**

A one-semester course, four credit hours. The course presents physics material with special emphasis on the physical principles and topics relating to Respiratory Therapy. Topics of special interest will include: mechanics of fluid flow, heat exchange in evaporation and condensation, gas laws. Three class hours and one two-hour laboratory period per week.

Prerequisites: RT6613 and RT6615

**PI5621 Applied Physics I**

A one-semester course; four credit hours. Fundamentals of mechanical motion using algebra and graphical solutions. Principles of heat transfer, wave motion, vibration and sound. Basic fluid mechanics. Three class hours and one three-hour laboratory period per week.

**PI5622 Applied Physics II**

A one-semester course; four credit hours. Fundamentals of electricity, magnetism, and electrochemical effects. Electromagnetic induction and magnetic properties. Introduction to physical optics, lenses, mirrors and optical instruments. Three class hours and one three-hour laboratory period per week.

Prerequisite: PI5621

**PI5623 Engineering Physics I**

A one-semester course; four credit hours. To be taken concurrently with MA5621. The principles of mechanics, including composition and resolution of vectors, statics, moments, rectilinear motion, Newton's second law, motion of a projectile, work and energy, impulse and momentum, circular motion, rotational kinematics and dynamics, elasticity, harmonic motion. Three class hours and one three-hour laboratory period per week.

Prerequisite: MA5661 or equivalent

**PI5624 Engineering Physics II**

A one-semester course; four credit hours. To be taken concurrently with MA5622. Principles of electricity and magnetism. Coulomb's Law, potential, D.C. circuits, the magnetic field, galvanometers, ammeters, voltmeters, wattmeters, the D.C. motor, magnetic field of a current and of a moving charge, induced electromotive force, capacitance and inductance, magnetic properties of matter. Three class hours and one three-hour laboratory period per week.

Prerequisite: PI5623

**PI5651 Engineering Physics III**

A one-semester course; four credit hours. To be taken concurrently with MA5683. Heat, sound, and optics, including the following: thermometry, quantity of heat, change of state, work and heat; heat transfer, thermal properties of matter, the first and second law of thermodynamics, wave motion, vibrating systems; accoustical phenomena; the nature and propagation of light; reflection and refraction at a single surface, lenses and lens aberration; optical instruments; illumination, color, and polarized light. Three class hours and one three-hour laboratory period per week.

Prerequisite: PI6524

**PI5999 Special Topics in Physics**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**PS1101 Introduction to Psychology**

A one-semester course; three credit hours. Survey of the more important areas of psychology. Study of behavior, including maturation and development, emotions, motivation, learning, intelligence, conflict, psychotherapy and perception. Three class hours per week.

**PS1151 Child Psychology**

A one-semester course; three credit hours. Study of child development from the behavioral aspect. Motor, speech, social, emotional and play development are emphasized. A research paper on a particular kind of child or on one age level is required. Three class hours per week.

Prerequisite: PS1101

**PS1152 Adolescent Psychology**

A one-semester course; three credit hours. Study of adolescent development from the point of view of both the adult and the adolescent. The emotional, social, intellectual and other phases of development are considered. Three class hours per week.

Prerequisite: PS1101

**PS1153 Educational Psychology**

A one-semester course; three credit hours. Major psychological factors in human development related to problems in the school situation; teacher's role in school motivation; conceptual learning, problem solving and the development of emotional behavior, attitudes and values; learning of skills; retention and transfer; and measurement of student abilities and achievement. Recommended for students contemplating future study in education or psychology. Three class hours per week.

Prerequisite: PS1101

**PS1154 Psychology of Personality**

A one-semester course; three credit hours. This course introduces students to a variety of theoretical approaches to the understanding of character and personality. It includes psychoanalytic theories, learning theories, humanistic theories, trans-personal theories, and existential theories. Three class hours per week.

**PS1203 Human Growth and Development**

A one-semester course; three credit hours. This course is designed to help students understand behavior from conception to maturity. Specific problems which occur during the life cycle will be discussed and explored. Patterns and sequences of growth and individual differences are reviewed in relation to the effects of heredity and environmental factors. Three class hours per week.

**PS1351 Social Psychology**

A one-semester course; three credit hours. The social matrix of individual behavior. The shaping of personality by face-to-face relations with one other, two others, or a group. Why behavior is different in a group. Prejudices as perception. Group influence on masculine and feminine identity. The group and the search for meaning. Three class hours per week.

Prerequisite: PS1101

**PS1651 Industrial Psychology**

A one-semester course; three credit hours. An introduction to problems of human relations in business and industry. Such problems as selection, placement, conflict, supervision, motivation and cooperation will be examined. The case method will be used extensively. Three class hours per week.

**PS1751 Abnormal Psychology**

A one-semester course; three credit hours. The study of the etiology, treatment and prevention of mental disorders. Includes study of functional and organic psychoses, psychoneuroses, and borderline maladjustments. Three class hours per week.

Prerequisite: PS1101

**PS1999 Special Topics in Psychology**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**PS6551 Gerontology**

A one-semester course; three credit hours. The unique physical and mental characteristics and problems of the elderly with which administrators of nursing home facilities should be familiar. Three class hours per week.

**PT7051 Introductory Photography**

A one-semester course; three credit hours. This course provides the basic theory and practice of black and white photography. It covers such topics as camera controls, exposure, the nature of available and artificial light, negative and positive materials and chemicals, composition, and film and print processing procedures. A variety of assignments provides practice in the use of photographic equipment, solving photographic problems and processing photomaterials in the darkroom. Two class hours and one two-hour laboratory workshop period per week.

Prerequisite: Permission of the instructor

**PT7052 Intermediate Photography**

A one-semester course; three credit hours. Advanced techniques and projects in black and white photography, and the basic theory and practice of color photography. Emphasis is on photographic self-expression and the techniques of creative photography, including an introduction to studio and laboratory controls. Projects may be done in black and white or color. Part of the course allows students to work in a variety of different areas of photography according to each student's interest and desire. This multi-directional portion of the course may include photography, photo-micrography, portraiture, photojournalism and the photo essay. Two class hours and one two-hour laboratory workshop period per week.

Prerequisite: PT7051 and permission of the instructor.



**RE1102 Contemporary Western Religion**

A one-semester course; three credit hours. A study of the major current movements in theology and practice of religious life, with emphasis on American religion. Death of God, religious atheism, secular Christianity, the charismatic revival, and the Jesus movement are among the themes discussed. Opportunity will be given for field work in the religious life of the Merrimack Valley. Three class hours per week.

**RE1103 Eastern Philosophies and Religions**

A one-semester course; three credit hours. A survey of the major religious traditions of India, China and Japan, with emphasis on Hinduism, Buddhism, Confucianism, Taoism and Shinto. The course is aimed at an acquaintance with the ways of thinking and living, as well as the value judgment inherent in eastern culture traditions. Three class hours per week.

**RE1104 Judaism, Christianity and Islam**

A one-semester course; three credit hours. A survey of the Judaic, Christian and Islamic traditions with emphasis on historical and cultural perspective. Attempts are made to assess the role of religion in the ancient, medieval and modern societies of the West and Middle East. Three class hours per week.

**RT6511 Radiologic Science I**

A one-semester course; three credit hours. Designed to examine the fundamentals of physical principles of electrical and x-ray physics, and the operational study of x-ray equipment and auxiliary devices. The course will examine fundamental and derived units, mechanics matter, magnetism and electricity, electromagnetism, generators, motors and transformers. Three class hours per week.

**RT6512 Radiologic Science II**

A one-semester course; three credit hours. Emphasis will be placed on the formation of ionizing radiation by further analysis of x-ray and other types of circuits, tubes, etc., laws of motion, thermal considerations, optics and lens systems, and radioactivity. Three class hours per week.

Prerequisite: RT6511

**RT6517 Radiologic Orientation I**

A one-semester course; four credit hours. This course will offer a comprehensive and detailed study of the history of x-ray technology and radiology, medical ethics, elementary radiation protection, medical terminology, darkroom chemistry, basic principles of radiographic exposure, preliminary radiographic positioning and radiographic osteology. Emphasis will be placed on the understanding of radiologic technology and its place in the hospital setting. Two two-hour classes and one one-hour class per week.

**RT6518 Radiologic Orientation II**

A one-semester course; four credit hours. This course will continue basic positioning, radiographic exposure, and their interrelated principles. An evaluation and study of the use of contrast media. Nursing procedures related to radiology and radiologic technology, pediatric positioning will be considered. Two two-hour classes and one one-hour class per week.

Prerequisite: RT6517

**RT6551 Radiologic Technology I**

A one-semester course; three credit hours. The following subjects will be examined in detail: a continuation of radiographic positioning, advanced radiographic positioning, radiologic osteology. Three class hours per week.

Prerequisite: RT6518

**RT6552 Radiologic Technology II**

A one-semester course; three credit hours. The following subjects will be studied in detail: intro-oral radiography, a survey of medical and surgical diseases, departmental administration, equipment maintenance. Three class hours per week.

Prerequisite: RT6551

**RT6552a Hospital Practicum**

A concurrent aspect of Radiologic Technology I and II. The student will apply, under the direction and supervision of the affiliate hospitals, principles learned in the classroom. Emphasis will be placed on solidification of theoretical knowledge in the hospital setting. Activities will be under the direction of the college and the liaison instructor in the affiliate hospitals.

Prerequisite: Must be taken concurrently with RT6551 and RT6552

**RT6561 Principles of Radiologic Technique I**

A one-semester course; four credit hours. The student will study radiographic exposure, radiation protection, and special procedures as they relate to radiology and radiologic technology. Three two-hour classes per week.

Prerequisite: RT6517

**RT6562 Principles of Radiologic Technique II**

A one-semester course; four credit hours. This course will study in detail the principles of radiation therapy, radioactive isotopes and film critique. Three two-hour classes per week.

Prerequisite: RT6561

**RT6571 Seminar I (Radiologic Technology)**

A one-semester course; four credit hours. A concurrent aspect of Radiologic Technology I and Principles of Radiologic Technology I. The student will apply under direction and supervision at the affiliate hospital principles learned in the classroom. Emphasis will be placed on solidification of theoretical knowledge in the hospital setting. Activities will be under the direction of the college and the liaison instructor at the affiliate hospital. Twenty-two hours of directed clinical activity and two hours of discussion for a total of twenty-four hours per week.

Prerequisite: RT6561 and RT6551 concurrently

**RT6572 Seminar II (Radiologic Technology)**

A one-semester course; four credit hours. This course allows the student to put into practice at the affiliate hospital, the knowledge gained from studies in the other Radiologic Technology courses. Clinical activities will follow concurrently the material covered in Radiologic Technology II and Principles of Radiologic Technology II. Twenty-two hours of directed clinical activity and two hours of discussion for a total of twenty-four hours per week.

Prerequisite: RT6552 and RT6562 concurrently

**RT6601 Introduction to Respiratory Therapy Procedures**

A one-semester course; three credit hours. The lectures emphasize the history, manufacture, regulations and safety precautions involved with oxygen. Flow regulating devices and indications and procedures for the use and administration of oxygen and other medical gases discussed. Three class hours per week.

**RT6602 Aerosol Therapy and Pharmacology**

A one-semester course; three credit hours. Theory and procedures of humidity and aerosol therapy, including an investigation into the devices currently employed in the field, and a survey of aerosol agents, and the pharmacological theory involved. Three class hours per week.

Prerequisite: RT6621 concurrently or permission of the coordinator

**RT6607 Seminar for Respiratory Therapy Technicians**

A five-week course offered in the summer; four credit hours. This program is designed to round out the clinical experience and subject material presentation of the student in anticipation of entrance into professional life. **REQUIREMENT FOR ONE-YEAR CERTIFICATE PROGRAM STUDENTS ONLY.**

**RT6608 Review for Respiratory Therapy Technicians**

A one-semester course; three credit hours. The course is open to students who have finished a full year of study in a respiratory therapy curriculum or who have a year or more working experience as a respiratory therapy technician. The objective of the course is to help the student and working professional in organizing and reviewing the materials found in the Inhalation Therapy Technician Certification Examination. **REQUIREMENT FOR ASSOCIATE DEGREE CANDIDATES.** Three class hours per week.

**RT6613 Ventilatory Management**

A one-semester course; three credit hours. Ventilation and emergency therapy, including all types of ventilators and their classification, units for home use, and the principles and procedures of cardio-pulmonary resuscitation. Three class hours and one three-hour laboratory period per week.

Prerequisite: RT6662 concurrently or permission of the coordinator

**RT6615 Cardio-Pulmonary Physiology**

A one-semester course; three credit hours. This course offers the student an in-depth analysis of the physiology of respiratory systems. Physiological states in cardio-respiratory disease are investigated. Three class hours per week.

Prerequisite: RT6622 concurrently or permission of the coordinator

**RT6616 Cardio-Pulmonary Technology**

A one-semester course; three credit hours. The course will cover the use of testing methods to monitor the extent of cardio-pulmonary disease. Among the testing methods studied are those used to monitor blood gas changes, and those used in pulmonary function studies.

Prerequisite: RT6617 concurrently

**RT6617 Seminar III (Respiratory Therapy)**

A one-semester course; four credit hours. The course meets on two hospital working days per week at a hospital affiliated with the program. The students are given the opportunity to perform physiological tests, including blood gas analysis and pulmonary function test, and are guided in exercises concerned with hospital fiscal management and medical allocations. In addition, the students continue to practice and groom their previously acquired patient care skills through the application of the psychology of patient care.

Prerequisite: RT6616 concurrently

**RT6618 Respiratory Intensive Care**

A one-semester course; three credit hours. The objectives of this course are to bring together all the elements needed by the practicing therapist in the maintenance of life-supportive systems used in the treatment of the critically ill pulmonary or coronary patient. Methods of assisting the physician through information gathering and technical advisement will be considered. Three class hours per week.

Prerequisite: RT6654 concurrently or permission of the coordinator



**RT6621 Seminar I (Respiratory Therapy)**

A one-semester course; four credit hours. The seminar meets a minimum of two hospital working days per week at a hospital affiliated with the program. The course also includes forty-eight hours of introductory clinical experience which is conducted in the six weeks prior to the start of classes; this is designed to acquaint the student with the hospital environment and general functions. The course facilitates the student's mastery of some of the basic patient care operations used in respiratory therapy. The objectives of the course are chosen to integrate classroom theory with the practicalities of clinical practice.

Prerequisites: RT6601 and RT6602 concurrently

**RT6622 Seminar II (Respiratory Therapy)**

A one-semester course; four credit hours. The seminar meets a minimum of two hospital working days per week at a hospital affiliated with the program. The course is designed to bring the student to an understanding of the physiological changes which occur in actual patients suffering from cardiac or respiratory inadequacy or failure. The respiratory therapy arts used in maintaining cardio-pulmonary functions in the face of a disordered physiology are practiced and mastered.

Prerequisite: RT6613 and RT6615 concurrently

**RT6650 Directed Studies in Respiratory Therapy**

A one-semester course; three credit hours. This is a seminar course which allows the student under advisement of the instructor to investigate specialized areas of respiratory therapy. The course is designed to guide the student to a mastery of the skills needed in library and original clinical research. One one-hour lecture and two tutorial sessions per week.

Prerequisite: RT6654 concurrently

**RT6651 Interdepartmental and Interpersonal Relations**

A one-semester course; two credit hours. This course integrates the psychology of patient care and interpersonal relations with the principles of team patient care and hospital organization. An analysis is made by the student of actual patient care situations and hospital organizational structures. One lecture and one seminar session per week. THIS COURSE IS REQUIRED FOR ALL FOURTH SEMESTER ASSOCIATE DEGREE CANDIDATES.

**RT6654 Seminar IV (Respiratory Therapy)**

A one-semester course; four credit hours. The seminar meets a minimum of two hospital working days per week at a hospital affiliated with the program. The student is given directed instruction in the patient care area as they apply to acute medical emergencies, extensive surgical and accidental trauma, and to the maintenance of patients who have protracted cardio-pulmonary disorders. The student is allowed to direct much of his own activity. The investigation of actual patient care histories in order to identify the pathogenesis of disease processes which are of concern to the practicing respiratory therapist is undertaken.

Prerequisite: RT6618 and RT6650 concurrently

**SC5011 Man and His Environment**

A one-semester course; three credit hours. Study of the ecology of the ape, primitive man, and the cultured and urbanized man of today. The study of the progressive deterioration of man's balance with the rest of nature, showing the way man has to change his psychological attitudes in order to implement and develop new technical solutions. The study of the technical solutions necessary to solve the three major problems of today: overpopulation, inadequate resources and pollution. Three class hours per week.



**SC5503 Integrated Science I**

A one-semester course; three credit hours. Emphasis is placed on chemistry, physics and microbiology. The human body as a whole, the skin, the skeletal system, and the muscular system are studied. Three class hours per week.

**SC5504 Integrated Science II**

A one-semester course; three credit hours. Emphasis is placed on the bodily systems, metabolism, nutrition, reproduction, genetics, the eye, and the ear in particular. Three class hours per week.

**SC5511 Physical Science I**

A one-semester course; four credit hours. An integrated course which considers the basic principles of the physical universe, including the study of the composition of substances, the atmosphere, synthetics, the earth, and the universe, in an effort to develop an understanding of the relationship of the sciences to everyday life. Three class hours and one two-hour laboratory period per week.

**SC5512 Physical Science II**

A one-semester course; four credit hours. A continuation of SC5511. Three class hours and one two-hour laboratory period per week.

**SC5599 Research Topics in Science**

An open-ended investigatory course with credits varying from one to three hours. Designed for the advanced student who is interested in a career in the sciences. The student will work on a topic of his choice under the direction of one faculty member. Topics available include areas in the biological, earth and physical sciences. Interested students should obtain a list of faculty members showing their areas of specific interest and then consult with the faculty member of his choice before registering for the course. Limited to one semester. THIS COURSE DOES NOT FULFILL THE SCIENCE REQUIREMENTS FOR GRADUATION.

Prerequisite: Permission of the instructor.

**SC5999 Special Topics in Science**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**SH6621 Shorthand I**

A one-semester course; three credit hours. Gregg shorthand principles, including the shorthand alphabet, brief forms, phrasing, and other abbreviating devices. Development of the ability to take dictation on practiced material at 60 to 80 words per minute. Study of the non-shorthand elements of spelling and punctuation. Four class hours per week.

**SH6622 Shorthand II**

A one-semester course; three credit hours. Reinforcement of shorthand principles, development of ability to take new matter dictation at 60 to 80 words per minute, and procedures and methods for handling simple office-style dictation problems. Four class hours per week.

Prerequisite: SH6621 or equivalent

**SH6623 Machine Shorthand**

A one-semester course; three credit hours. A beginning course in which touch shorthand develops through the use of the stenograph machine through introduction and practice activities designed to reinforce keyboard mastery the student acquires a thorough knowledge of the principles of machine shorthand. Four class hours per week.

**SH6641 Technical Stenography**

A one-semester course; three credit hours. Study of shorthand for technical terms, phrases, and abbreviations peculiar to each technical field and development of the ability to devise technical shorthand outlines. Preparation of technical reports with a proficiency in proofreading and exactness. Three class hours per week.

Prerequisite: SH6622 and TW6622

**SH6643 Technical Dictation and Transcription**

A one-semester course; three credit hours. Development of ability to take dictation at speeds from 90 to 120 words a minute on technical materials and to transcribe accurately. Emphasis is placed on the transcribing problems peculiar to the technical field. Five class hours per week.

Prerequisite: SH6671 and SH6641

**SH6671 Shorthand III**

A one-semester course; three credit hours. Development of ability to take dictation speeds at the 80 to 100 work levels. Emphasis is placed on the mechanics of English including spelling and punctuation and the growth of effective transcribing techniques. Five class hours per week.

Prerequisite: SH6622 and TW6622 or equivalent

**SH6672 Shorthand IV**

A one-semester course; three credit hours. Development of shorthand skill at the 100 to 120 work levels. Reinforcement of previously learned typing and shorthand skills to improve accuracy and speed of transcription. Advanced office-style procedures. Five class hours per week.

Prerequisite: SH6671

**SH6673 Shorthand V**

A one-semester course; three credit hours. Development of shorthand skill to the expert levels of 120 to 160 words per minutes. Study of shorthand reporting short cuts. Vocabulary of executive dictation. Further development of transcribing skills. Emphasis on growth of ability to do conference reporting. Five class hours per week.

Prerequisite: SH6672

**SH6677 Medical Dictation and Transcription**

A one-semester course; three credit hours. Development of the shorthand vocabulary necessary to write from dictation and to transcribe medical dictation. Practice in preparing various kinds of medical reports. Five class hours per week.

Prerequisite: SH6671 and HS6601

**SH6679 Legal Stenography**

A one-semester course; three credit hours. Development of a basic legal shorthand vocabulary. Study of the duties and responsibilities of the legal secretary in a law office. Three class hours per week.

Prerequisite: SH6622 and TW6622

**SH6691 Legal Dictation and Transcription**

A one-semester course; three credit hours. Development of the ability to take rapid legal dictation and to transcribe accurately. Students are required to type in correct legal format and be familiar with the use of legal instruments and documents. Study of the maintenance of a law library and typical law office procedures. Five class hours per week.

Prerequisite: SH6679

**SK6651 Office Machines I**

A one-semester course; one credit hour. Introduction and development of the BASIC skills needed to operate duplicating and photocopy equipment, adding-listing machines, electronic calculators and electric calculators rotary, printing and key-driven. Introduction to common types of transcribing equipment. Two class hours per week.

Prerequisite: TW6621 or equivalent

**SK6652 Office Machines II**

A one-semester course; three credit hours. Opportunity for intensive development in the operating of duplicating and photocopy equipment, as well as adding machines and common types of calculators. Emphasis on executive typewriters and executive transcribing equipment. Study of reprographics, magnetic tape and automatic typewriting equipment. Four class hours per week.

Prerequisite: TW6622 or equivalent

**SK6653 Machine Transcription**

A one-semester course; three credit hours. Development of high-level skills in the use of transcription equipment. Emphasis is placed on the use of business, professional, and technical materials. Development of vocational transcription rates. Four class hours per week.

Prerequisite: TW6622

**SK6655 Medical Machine Transcription**

A one-semester course; three credit hours. Introduction to machine transcription and development of a medical vocabulary. Development of vocational competence in medical transcription. Four class hours per week.

Prerequisite: TW6622 and HS6601

**SL6661 Secretarial Procedures I**

A one-semester course; three credit hours. Theory and problems in office and records management, selection and maintenance of office supplies and equipment, dictation and transcription procedures, composition of business letters, processing of mail, and postal and shipping services. Three class hours per week.

Prerequisite: TW6622 and SH6622

**SL6662 Secretarial Procedures II**

A one-semester course; three credit hours. Receptionist and telephone techniques, and handling travel arrangements. Preparation of business reports, statistical charts and graphs. Secretarial responsibilities for banking, insurance, investment and payroll services. Three class hours per week.

Prerequisite: TW6622 and SH6622

**SL6665 Office Administration**

A one-semester course; three credit hours. Development of judgments and insights needed by the executive secretary to function on the administrative or supervisory levels. Analysis of long-range office projects, determination of work priorities, organization of research information, and the place of human relations in the supervisory process. A case study approach to the problems of office supervision. Three class hours per week.

Prerequisite: SL6661

**SL6666 Introduction to Word Processing**

A one-semester course; three credit hours. Nature, purpose and function of word processing. Emerging structure of the word processing department in relationship to the total office organization. Typing, editing, transcribing and communication skills necessary for the successful word processor and correspondence secretary. Typical office plans, forms and media of communication. Four class hours per week.

Prerequisite: TW6631 and SL6661

**SL6668 Secretarial Field Experience**

A one-semester course; three credit hours. Students are assigned to offices on the basis of interest and ability so that they may become a part of the business world before graduation. The student is supervised at the college by the departmental faculty and at work by the employer. One class hour and eight office hours per week.

Prerequisite: SH6671 and TW6631

**SL6680 Medical Secretarial Procedures**

A one-semester course; three credit hours. Theory and problems in the management of the medical office including filing, making appointments, completing medical forms, telephone techniques, medical bookkeeping, and dictation and transcription procedures related to the medical office. Three class hours per week.

Prerequisite: SH6677

**SO3321 Principles of Sociology**

A one-semester course; three credit hours. Study of the social order, and of human behavior as motivated and influenced by group membership, and by culture. Analysis of structure and functions of the major social institutions. Three class hours per week.

**SO3322 Introduction to Archaeology**

A one-semester course; three credit hours. The history, methods and theory of archaeology, with an outline of the main characteristics of the prehistoric record throughout the world. Three class hours per week.

**SO3323 Physical Anthropology: Origins of Man**

A one-semester course; three credit hours. The main focus of this course is to trace the evolutionary history of our species, with discussions on evolutionary theory, evolutionary process and examination of fossil evidence relevant to man. Human variation (physical) and origins of human behaviors would conclude the course. Three class hours per week.

**SO3324 Cultural Anthropology**

A one-semester course; three credit hours. A study of the cultural diversity of contemporary man. Language, religion, philosophy, kinship, and political organization of selected non-European people to be studied with special emphasis on the American Indian. Three class hours per week.

**SO3331 Marriage and the Family**

A one-semester course; three credit hours. Examination of marriage and the family from a social-psychological point of view. Consideration of such areas of adjustment as emotional, physical, social, financial, religious and legal. Three class hours per week.

Prerequisite: SO3321

**SO3333 Contemporary Social Problems**

A one-semester course; three credit hours. Analysis of the origins, extent, and significance of contemporary social problems. The course will be concerned with changes in social patterns and trends, with emphasis on the causes of group disintegration and reorganization. Three class hours per week.

Prerequisite: SO3321

**SO3343 Juvenile Delinquency**

A one-semester; three credit course. This course will concern itself with an in-depth study of juvenile delinquency: its various causes, the sociological impact on the community, as well as present rehabilitative efforts which attempt to cope with this serious contemporary problem. Three class hours per week.

Prerequisite: SO3321



**SO3999 Special Topics in Sociology**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**SP4401-SP4402 Introductory Spanish I and II**

A two-semester course; three credit hours per semester. For students who have not completed two years of high school Spanish or the equivalent as determined by the college. Audiolingual emphasis. Introduction to grammatical patterns, reading and writing. Three class hours per week.

**SP4421 Conversational Spanish for Public Service**

A one-semester course; three credit hours. Designed primarily for personnel in public service who need basic communication skills when dealing with speakers of Spanish only. Question/answer format: basic dialogue; pattern practice; specialized vocabularies to meet individual needs. Three class hours per week.

**SP4422 Conversational Spanish II**

A one-semester course; three credit hours. Pattern practice, dialogues, question/answer format; specialized vocabularies to meet individual needs. Three class hours per week.

Prerequisite: SP4421, Conversational Spanish I

**SP4451-SP4452 Intermediate Spanish I and II**

A two-semester course; three credit hours per semester. For students who have completed two or more years of high school Spanish or the equivalent as determined by the college, or who have completed SP4401 and SP4402. A continued study of language skills, emphasizing the development of reading ability. Three class hours per week.

**SP4999 Special Topics in Spanish**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**TH6999 Special Topics in Theatre**

A one-semester course; one to four credit hours. Directed readings, directed research, seminar or class in specific topics in discipline. The procedures to be followed and approval forms are available in the Registrar's office. Outlines for completed courses may be requested from the Registrar.

**TH7765 Introduction to the Theatre**

A one-semester course; three credit hours. An introductory course which will survey the development and techniques of modern drama. Instruction will be given in acting, directing and the technical aspects of play production. Three class hours per week.

**TH7775 Fundamentals of Play Production**

A one-semester course; three credit hours. The methods and techniques of play production. Practical laboratory work, seminars, and demonstrations. Lighting the stage, set construction, costume design and construction, make-up and other theatre related activities are performed and discussed. First-hand experience is gained by participating in aspects of play production. Three class hours per week.

**TH7785 Mime**

A one-semester course; three credit hours. The mime (or pantomime) expresses ideas and concepts using the body instead of the voice as a means of communication. Toward this end, classical mime technique is incorporated with exercises from improvisation and other disciplines. Readings and attendance at professional mime shows add background knowledge which enhances student performance. Three class hours per week.

**TW6621 Typewriting I**

A one-semester course; three credit hours. Foundation course to vocational typewriting. Development of correct basic typewriting skill. Introduction to short business and personal letters, tables, reports, and other typewriting applications. Four class hours per week.

**TW6622 Typewriting II**

A one-semester course; three credit hours. Development of requisite typing skill, experience and knowledge expected of a typist new to office employment. Development of ability to make basic editorial corrections and to type manuscripts, business forms, tabulations, and correspondence. Four class hours per week.

Prerequisite: TW6621 or equivalent

**TW6631 Typewriting III**

A one-semester course; three credit hours. Extension of typewriting skill to higher performance levels. Emphasis on typing unfamiliar and unarranged kinds of materials. Statistical typing. Production typewriting. Four class hours per week.

Prerequisite: TW6622 or equivalent

**TW6632 Typewriting IV**

A one-semester course; three credit hours. Mastery of ability to produce rapidly long manuscripts related to reports, magazine articles and speeches. Development of the ability to compose correspondence and edit the business writings of others. Production typewriting with the development of vocational rates of speed. Four class hours per week.

Prerequisite: TW6631

**TW6641 Technical Typewriting**

A one-semester course; three credit hours. Correct use and spelling of scientific terminology. Development of skill in typing technical and engineering correspondence, reports, rough drafts, and manuscripts which contain various mathematical and chemical equations. Four class hours per week.

Prerequisite: TW6631

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